THE LANCET.

A Journal of British and Foreign Medicine, Surgery, Obstetrics, Physiology, Chemistry, Pharmacology, Public Health, and News.

TELEGRAPHIC ADDRESS—LANCET, WESTRAND LONDON TELEPHONE NUMBER—GERRARD 5356

No. X. OF VOL. II., 1913.
No. 4697. Vol. CLXXXV. LONDON, SATURDAY, SEPTEMBER 6, 1913. Pp. 160—Price 6d.

Second Edition. Revised and Enlarged. Crown 8vo. 5s. net.

THE NEW PHYSIOLOGY
IN SURGICAL AND GENERAL PRACTICE.
By A. RENDLE SHORT, M.D., B.S., B.Sc.Lond., F.R.C.S. Eng., Hon. Surg. Reg., Roy. Infirmary; Sen. Dem. Phys., Bristol Univ.
"Contains much useful information based upon recent Physiology which the reader ....., will find of value in the diagnosis of disease and the treatment of the sick."—BRIT. MED. JOUR. "We welcome most heartily this little book ..... his teaching will be widely appreciated ..... a very remarkable book."—CLIN. JOURN.
Bristol: Wright & Sons Ltd. London: Simpkin & Co. Ltd.

Recently Published. Third English Edition. Pp. xviii. + 368. Price 10s. 6d. net.

KRAEPELIN'S CLINICAL PSYCHIATRY.
Translated by THOMAS JOHNSTONE, M.D. Edin., M.R.C.P. Lond.
No other work has proved so useful a guide in the clinical investigation of the insane as Professor Kraepelin's.
London: Baillière, Tindall & Cox.

Recently Published. Pp. xvi. + 432. Price 10s. 6d. net.

PSYCHO-ANALYSIS. By ERNEST JONES, M.D.Lond., M.R.C.P.Lond., Associate Professor of Psychiatry, University of Toronto.
London: Baillière, Tindall & Cox.

Recently Published. Third Edition. Pp. viii. + 396. Price 5s. net.

MINOR MALADIES and their TREATMENT. By LEONARD WILLIAMS, M.D., Physician to the French Hospital and to the Metropolitan Hospital, &c.
This is without doubt the most valuable book of its kind published.
London: Baillière, Tindall & Cox, 8, Henrietta-street, Covent Garden.

BY C. MANSELL MOULLIN, M.D. Oxon., F.R.C.S., Consulting Surgeon to the London Hospital.
Fourth Edition.
ENLARGEMENT of the PROSTATE. Price 6s.
THE BIOLOGY OF TUMOURS, BRADSHAW LECTURE, 1912. Price 2s. net.
London: H. K. Lewis, 136, Gower-street.

WHEN to OPERATE in INFLAMMATION of the APPENDIX.
Third Edition now ready. Price 2s. 6d.
London: J. Bale & Danielsson Ltd., 83-89, Gt. Titchfield-street.

Fourth Edition, with 57 Illustrations, including numerous original Photo-micrographs. 10s. 6d. net.

THE NUTRITION OF THE INFANT.
By RALPH VINCENT, M.D.
London: Baillière, Tindall & Cox, 8, Henrietta-street, Covent Garden.

THE INDICATIONS for WIDELY RESECTING the BLADDER WALLS in VESICAL GROWTH.
With 4 Plates. Cloth. 3s. 6d. net.
By E. HURRY FENWICK, F.R.C.S.,
Professor of Urology at the London Hospital;
Vice-President of International Society of Urology, and President to its Second Congress.
New Work.
London: Adlard & Son, Bartholomew-close.

By W. MCADAM ECCLES, M.S. Lond., Surgeon, St. Bartholomew's Hospital.
HERNIA: Its Etiology, Symptoms, and TREATMENT.
(Third Edition) and the
IMPERFECTLY DESCENDED TESTIS.
Price 7s. 6d. each net.
Baillière, Tindall & Cox, 8, Henrietta street, Covent Garden, London.

Now Ready. Pp. xi. + 269. With 3 Charts. 5s. net.
ON ALCOHOLISM: Its Clinical Aspects and Treatment.
By FRANCIS HARE, M.D., Medical Superintendent of the NORWOOD SANATORIUM, Beckenham.
"Marked by candour, common sense, and moderation ..... likely to become the standard text-book."—BRITISH MEDICAL JOURNAL.
London: J. & A. Churchill, 7, Great Marlborough-street.

Third Edition. Pp. viii. + 134. With 22 Illustrations. Price 3s. 6d. net.
ANÆSTHETICS. By J. BLUMFELD, M.D., Senior Anæsthetist to St. George's Hospital.
"A truly excellent manual."—LANCET.
"Dr. Blumfeld's handbook of anæsthetics leaves little to be desired. It is packed with useful information and practical hints."—BRIT. M. J.
London: Baillière, Tindall & Cox, 8, Henrietta-street, Covent Garden.

PRACTICAL SANATORIUM ADMINISTRATION.
See—AUTO-INOCULATION IN PULMONARY TUBERCULOSIS.
By MARCUS PATERSON, M.D.,
Medical Director to the Welsh National Memorial to King Edward VII., late Medical Supt. at Brompton Hospital Sanatorium, Frimley.
Demy 4to. Pp. 236. With Charts and Illustrations. 21s. net.
"The work is an important one, and should be in the hands of every sanatorium physician and of many others who are not sanatorium physicians. The system of applying and regulating graduated labour as a means of treatment as carried out by the author is described in sufficient detail to enable anyone to follow and apply it practically."—THE EDINBURGH MEDICAL JOURNAL.
London: James Nisbet & Co., Limited, 22, Berners-street, W.

JUST ISSUED.
DERCUM'S MENTAL DISEASES.
A USEFUL BOOK FOR THE GENERAL PRACTITIONER.
See Saunders' Advertisement on page 5.

IN THE PRESS.
THE SENSORY and MOTOR DISORDERS OF THE HEART: THEIR NATURE AND TREATMENT.
By ALEXANDER MORISON, M.D., F.R.C.P.,
Senior Physician to the Great Northern Central Hospital; Physician in Charge of Heart Cases, Mount Vernon Hospital.
Baillière, Tindall, & Cox, 8, Henrietta-street, Covent Garden, London.

By ERNEST CLARKE, M.D., B.S., F.R.C.S. Eng
Senior Surgeon to the Central London Ophthalmic Hospital; Consulting Ophthalmic Surgeon to the Miller General Hospital.
ERRORS OF ACCOMMODATION AND REFRACTION OF THE EYE.
Third Edition. Pp. x. + 228. With 86 Illustrations and Coloured Plates. Price 5s. net.
"This volume is the very best of the class that goes into everything with care and thoroughness. ..... The book merits the highest commendation."—CANADA LANCET.
London: Baillière, Tindall & Cox, 8, Henrietta-street, Covent Garden.

By J. S. KELLETT SMITH, F.R.C.S. Eng.
LATERAL SPINAL CURVATURE AND FLAT FOOT AND THEIR TREATMENT BY EXERCISES.
"We may say ... that he has carried out his idea admirably. ..... This is eminently a book well suited for the general practitioner wishful to treat the slighter forms of scoliosis or pes planus."—LANCET.
5s. 6d. net. 82 Illustrations. Bristol: J. Wright & Sons, Ltd.

WORKS by Dr. HARRY CAMPBELL.
HEADACHE, ETC.
BLUSHING AND MORBID BLUSHING.
DIFFERENCES IN THE NERVOUS ORGANISATION OF MAN AND WOMAN.
H. K. Lewis.
ON TREATMENT. Third Impression.
Baillière, Tindall.

Demy 8vo. Cloth. 2s. 6d. net. 53 Illustrations.
RADIUM AND CANCER.
By LOUIS WICKHAM, M.V.O., and PAUL DEGRAIS.
Translated by A. and A. G. BATEMAN, M.B., C.M.
London: Adlard & Son, Bartholomew Close.

"ROSE and CARLESS' SURGERY
is a trustworthy guide for the student and the practitioner."—LANCET.
Eighth Edition. Pp. xii. + 1406. With 12 coloured Plates and 581 Illustrations. Price 21s. net.
London: Baillière, Tindall & Cox, 8, Henrietta-street, Covent Garden.

THE CLINICAL PATHOLOGY of SYPHILIS AND PARASYPHILIS.
By HUGH WANSEY BAYLY, M.A., M.R.C.S., L.R.C.P.
"Easy to read and handy for reference. Particularly suited to students and practitioners."—BRITISH MEDICAL JOURNAL.
3 Plates and 22 Illustrations. Price 5s. net.
Baillière, Tindall & Cox.

Lysol

FOR ASEPTIC RESULTS.

Superior Cleansing.

Antiseptic & Disinfectant.

The special solvent action of Lysol on grease, mucus, &c. ensures removal of accumulated secretions together with their adherent germs and other contaminations.

A Handy Sample Bottle free to Surgeons on receipt of Professional Card.

Lysol is not a sticky coal-tar Emulsion composed of crude carbolic and unrefined cresols, but an absolute cleansing antiseptic. In the strength of 1 in 100 it has no irritating action on the skin, and wounds invariably heal well after its application.

As a Dentifrice, Mouth-Wash, or Gargle use 3 to 5 drops in a tumblerful of water.

Of all Chemists, in Bottles at 7½d, 1/9, & 3/-.

CHAS. ZIMMERMANN & CO. (Chemicals), Ltd., 9 & 10, St. Mary-at-Hill, LONDON, E.C.

Valentine's Meat-Juice

In **Typhoid, Gastric** and **Other Fevers** when the **Digestive Organs** are **Impaired** and it is **Imperative** to **Sustain** the **Patient, Valentine's Meat-Juice** demonstrates its **Ease** of **Assimilation** and **Power** of **Restoring** and **Strengthening.**

J. R. Wood, M. D., *Physician Sheltering Arms Hospital, Paint Creek, W. Va., U. S. A.:* "I have been using VALENTINE'S MEAT-JUICE in the treatment of Typhoid Fever cases in the Sheltering Arms Hospital, for the last two or three weeks, with the most gratifying results both to the patient and physician. I consider it the best preparation of animal food I have ever seen, in fact, the only one I have ever had any success with."

C. R. Trippe, M. D., *Easton, Maryland, U. S. A.:* "The VALENTINE'S MEAT-JUICE came at a very opportune time, for shortly after I received a very severe accident to my knee from which I had Traumatic Fever for three weeks and could eat nothing, not even milk. I had often prescribed it, but had no idea of its real merit until I used it myself. I lived upon it for at least a week and not only found it very nourishing but very pleasant to take, in fact, was anxious for the time to come to take it."

For Sale by European and American Chemists and Druggists.

VALENTINE'S MEAT-JUICE COMPANY,
RICHMOND, VIRGINIA, U. S. A.

D 195

THE LANCET.

No. 4697. Vol. CLXXXV. LONDON, SATURDAY, SEPTEMBER 6, 1913. Pp. 160.

CONTENTS.

The whole of the literary matter in THE LANCET is copyright.

AN ADDRESS on the Present Position of Post-Graduation Medical Education in the United Kingdom. Delivered at the International Conference on Post-Graduate Medical Education, on August 7th, 1913, by C. O. HAWTHORNE, M.D. Glasg., Chairman of Council, Medical Graduates' College and Polyclinic, London..... 707

ORIGINAL ARTICLES.

Pain and Sleeplessness: their Remedies Apart from the Consideration of Local Sedatives or Anæsthetics. By ROBERT JONES, M.D. Lond., F.R.C.P. Lond., Resident Physician and Superintendent, London County Council Asylum, Claybury; and Lecturer on Mental Diseases, St. Bartholomew's Hospital, London..... 709

A Contribution to the Study of Pellagra in England. By GURTH S. BLANDY, M.D. Edin., Assistant Medical Officer, Middlesex County Asylum, Napsbury.—(WITH ILLUSTRATIVE PLATES)..... 713

Notes of a Case of Pellagra. By J. W. E. COLE, M.A., M.B., B.C. Camb., M.R.C.S. Eng., L.R.C.P. Lond., D.P.H. R.C.P.S. Lond., Assistant Medical Officer of Bethnall House Asylum..... 717

The Effects of the Ductless Glands upon Development. By HASTINGS GILFORD, F.R.C.S. Eng..... 718

Military Experiences of Traumatic Aneurysms. By Dr. V. SOUBBOTITCH, Senior Surgeon, Belgrade State Hospital; Lieutenant-Colonel in Reserve, Servian Army.—(*Illustrated*)..... 720

The Value of Anoci-Association (Crile). By J. HENRY CHALDECOTT, L.R.C.P. Lond., Honorary Anæsthetist to St. Mary's Hospital; and C. W. G. BRYAN, F.R.C.S. Eng., Surgical Registrar to St. Mary's Hospital..... 721

REVIEWS AND NOTICES OF BOOKS.

Practical Bacteriology, Microbiology, and Serum Therapy (Medical and Veterinary). By Dr. A. Besson..... 723

Diseases of the Mouth, Syphilis and Similar Diseases. By Professor Dr. F. Zinsser..... 723

Diseases of the Skin. By David Walsh, M.D. Edin..... 723

Lehrbuch der Militärhygiene. V. Band. Militär Sanitätsstatistik. By Professor Dr. H. Schwiening..... 724

Influence of Thermal Environment on the Circulation and the Body Heat. By Edgar R. Lyth, M.B. Durh., M.R.C.S. Eng..... 724

Zones of the Spirit: a Book of Thoughts. By August Strindberg..... 725

The Distinction Between Mind and Its Objects. By Bernard Bosanquet, M.A., D.C.L., LL.D., F.B.A..... 725

The Philosophy of the Present in Germany. By Oswald Külpe..... 725

The Reduction of Domestic Flies. By Edward Halford Ross, M.R.C.S. Eng., L.R.C.P. Lond..... 725

Cancer: the Problem of its Genesis and Treatment. By F. W. Forbes-Ross, M.D. Edin., F.R.C.S. Eng., D.P.H. 726

The Causes of Deafness. By J. Kerr Love, M.D. Glasg..... 726

Memoirs of the Department of Agriculture in India: Successful Treatment of Surra in the Camel. By A. S. Leese, M.R.C.V.S..... 726

THE SEVENTEENTH INTERNATIONAL CONGRESS OF MEDICINE.

(LONDON, AUGUST 6th to 12th, 1913.)

The Sections:

Section III.—General Pathology and Pathological Anatomy: Papers by Dr. G. Roussy, Prof. G. S. Warthin, Prof. Dr. Max Borst, Prof. Yandell Henderson, Dr. Erwin Smith, Dr. J. Shennan, Dr. A. H. MacCordick, Dr. W. S. Lazarus-Barlow, and others..... 726

Section XI.—Neuropathology: Papers by Dr. S. Auerbach and Dr. E. Grossmann, Dr. J. Babinski, and others..... 729

Section XIII.—Dermatology and Syphiligraphy: Papers by Prof. T. C. Gilchrist, and others..... 731

Section XVI.—Otology: Papers by Prof. Alfred Denker, Dr. E. W. Goodall and Dr. Victor Delsaux, Prof. Clarence John Blake and Prof. Giuseppe Gradenigo..... 732

Section XIX.—Forensic Medicine: Papers by Dr. Benno Laquer, Dr. W. H. Willcox, Sir John Collie, Prof. J. Glaister, Dr. A. S. Morley..... 733

Sections XII. and XIX.—Joint Session of the Section of Psychiatry with the Section of Forensic Medicine: Paper by Prof. Comm. E. Morselli and Prof. W. Weygandt..... 735

Section XX.—Naval and Military Medicine: Papers by Prof. H. Vincent, and others 735

Sections XIII. and XX.—Joint Session of the Section of Dermatology and Syphiligraphy with the Section of Naval and Military Medicine: Papers by Prof. Ehrlich, and others..... 736

Section XXII.—Radiology: Papers by Prof. K. P. Wenckebach and Dr. Hugh Walsham, Dr. Sidney A. Owen, and others..... 737

Sections XI. and VII.—Joint Session of the Section of Neuropathology with the Section of Surgery: Papers by Prof. L. Bruns, and others 739

Subsection IIIa.—Chemical Pathology: Papers by Dr. H. F. Bashford, and others..... 740

International Conference on Post-Graduate Medical Education..... 742

The Museum.—(*Concluded*)..... 742

LEADING ARTICLES.

POST-GRADUATE STUDY..... 745

ANÆSTHETICS IN 1881 AND 1913. 746

ANNOTATIONS.

Pellagra Investigation Committee..... 747

The Work of the Government Laboratory for the Past Year..... 747

Rare Causes of Hæmatemesis... 748

A Fifteenth Century Medical Manuscript..... 748

Gymnastic Apparatus in Public Playgrounds..... 749

State Insurance Against Sickness in Germany..... 750

Soap and the Skin 750

Spinal Anæsthesia by Tropacocaine..... 751

An Unqualified Medical Practitioner and a "Medical Institute"..... 751

Treatment of Profuse Hæmorrhage from the Kidney by Injection of Adrenalin into the Renal Pelvis 752

Accidents Due to Defects of Sight..... 752

A Case of Erythræmia Associated with Ascites and Phlebitis of the Splenic Vein 752

PUBLIC HEALTH.

Annual Reports of Medical Officers of Health..... 759

Reports of School Medical Officers..... 760

VITAL STATISTICS:

Health of English Towns..... 760

Health of Scotch Towns 761

Health of Irish Towns 762

SPECIAL ARTICLES.

Asylum Reports 744

Post-Graduate Study..... 753

The Services..... 762

Medical Practice under the Insurance Act. XIX.—Altrincham and the Effect of the Act on the Political Vote.—(*To be continued*)..... 764

Scotland: Edinburgh Post-Graduate Courses in Medicine.—German Medical Visitors in Aberdeen.—Administration of National Insurance Act in Lanarkshire..... 766

Ireland: The Riots and the Dublin Hospitals.—Additional Grant for Certification in Ireland.—The Report on Medical Benefits for Ireland.—Insurance Medical Adviser for Belfast..... 767

Paris: Antityphoid Measures.—A Legacy to the Pasteur Institute.—Congress of Alienists and Neurologists.—A Military Sanatorium.—Sausages and Appendicitis ... 767

Vienna: The Teeth of School Children.—Increase in the Numbers of Medical Students and Graduates.—Forthcoming Congresses in Vienna..... 768

Budapest: Public Health in Hungary.—Hæmorrhagic Small-pox in Hungary 768

Australia: Outbreak of Small-pox 769

OBITUARY.

Walter Whitehead, F.R.C.S. Edin., F.R.S. Edin., Consulting Surgeon to the Manchester Royal Infirmary 770

John Patterson, M.D. Aberd., L.R.C.S. Edin..... 771

William Gayton, M.D. Brux., M.R.C.P. Edin., M.R.C.S. Eng., F.R.S.E., J.P., Member of the Honourable Society of Gray's Inn..... 771

Deaths of Eminent Foreign Medical Men 771

CORRESPONDENCE.

National Insurance Act Certificates (Mr. A. M. St. John Wright)..... 772

Medical Practice Under the National Insurance Act (Dr. T. Cuming Askin, Mr. F. L. Nicholls)..... 772

Fatal Hæmatemesis Following Thrombosis of the Splenic Vein (Mr. C. Gordon Watson) 772

The International Medical Congresses (Dr. Wu Lien Teh) ... 773

Intravenous Inoculation of Friedländer's Pneumobacterium Vaccine in the Treatment of Ozæna (Dr. A. R. Friel)..... 773

The Royal Society of Medicine and the Society of Tropical Medicine and Hygiene (Lieut.-Col. J. B. Smith, I.M.S.)..... 773

Blindness and the Cinematograph (Dr. E. Magennis)..... 774

Tonsillitis After Tonsillotomy (Mr. Edward D. Davis)..... 774

Intraperitoneal Saline Injections in Epidemic Diarrhœa (Dr. Charles Miller) 774

Further Remarks on the Technique of Electrocardiography (Prof. A. D. Waller).—(*Illustrated*) 775

The Prevention and Curative Treatment of Industrial Lead Poisoning (Mr. W. H. F. Oxley) 776

The Treatment of Pulmonary Tuberculosis (Dr. A. Neville Cox)..... 776

Professional Secrecy and the Medical Officers to Steamship Companies..... 776

MEDICAL NEWS.

Cornwall County Council and Tuberculosis..... 721

Literary Intelligence..... 722

University of Zurich..... 758

Pass-list of the Society of Apothecaries of London..... 776

Foreign University Intelligence 776

Brussels Medical Graduates' Association..... 777

St. Mary's Hospital Medical School: the Annual Dinner.. 777

St. Andrew's Hospital, Dollis Hill..... 777

Books, &c., received 777

Appointments 778

Vacancies 778

Births, Marriages, and Deaths 779

Notes, Short Comments, and Answers to Correspondents... 779

Medical Diary 780

Meteorological Readings 781

Acknowledgment of Communications received 782

FOR INDEX TO ADVERTISEMENTS SEE PAGES 2 & 4.

INDEX

MEDICAL AND OTHER BOOKS AND PUBLICATIONS

PAGE

ADLARD & SON:—
Fenwick .. Indications for Widely Resecting the Bladder Walls Cover 1
Wickham & Degrais .. Radium and Cancer Cover 1

ARNOLD:—
Bryce.... Modern Theories of Diet 7
Caldwell .. Medical Treatment .. 7
Cammidge.. Glycosuria, &c. 7
Hawthorne. Forensic Medicine and Toxicology 7
Howard .... House Surgeon's Vade-Mecum 7
Humphris .. Electro-Therapeutics 7
Hutchison.. Diseases of Children . 7
" Food, &c. 7
Leftwich .. Tabular Diagnosis .. 7
Keith ..... Human Embryology.. 7
McCay .... Protein Element in Nutrition 7
Macleod .. Diabetes, &c. 7
Mills & Humphreys Surgery for Dental Students 7
Parsons & Wright .. Practical Anatomy .. 7
Saundby .. Old Age 7
Savill ..... Clinical Medicine.... 7
Stewart .... Nervous Diseases 7
Text-Book of General Pathology 7
Vincent .... Internal Secretion & Ductless Glands.... 7

BAILLIERE, TINDALL & COX:—
Adams & Cassidy .. Acute Abdominal Diseases 5
Bayly ..... Clinical Pathology of Syphilis .... Cover 1
Bigg ..... Indigestion 6
Blumfeld .. Anæsthetics .. Cover 1
Campbell .. Treatment .... Cover 1

PAGE

BAILLIERE—(Continued).
Castellani & Chalmers. Tropical Medicine .. 3
Chetwood .. Urology 3
Clarke, E. .. Errors of Accommodation, &c. .. Cover 1
Cooper .... Pathological Inebriety 3
Eccles ..... Hernia ..... Cover 1
Fitzwilliams Operative Surgery .. 3
Jones ..... Psycho-Analysis Cover 1
Kraepelin's Clinical Psychiatry Cover 1
Lamb ..... Throat, Nose, and Ear 3
Luys..... Gonorrhœa, &c. 3
Morison .... The Sensory and Motor Disorders of the Heart .. Cover 1
Rose & Carless .. Surgery ..... Cover 1
Smallwood . Biology 3
Starr ..... Nervous Diseases 3
Torok & Grout .... Surgery of the Eye .. 3
Vincent .... The Nutrition of the Infant ..... Cover 1
Walsh ..... Diseases of the Skin. 3
Williams .. Minor Maladies, &c. Cover 1

BALE, SONS & DANIELSSON:—
Moullin .... Inflammation of the Appendix.... Cover 1

CASSELL & CO:—
Morris, Sir M..... Diseases of the Skin.. 6

CHURCHILL, J. & A.:—
Hare ..... Alcoholism.... Cover 1

FROWDE AND HODDER & STOUGHTON:—
Lockwood.. Aseptic Surgery..... 6
" .. Clinical Surgery..... 6

PAGE

GLAISHER:—
West ..... Granular Kidney, &c. 6

GRIFFIN & CO.:—
Pavlov .... Digestive Glands 6
Saundby .. Medical Ethics 6
" .. Diseases of Digestive System 6
West ..... Diseases of the Organs of Respiration 6

KIMPTON:—
Adam ..... Asthma 9
Dalton .... Venereal and Generative Diseases 9
Hirschman. Diseases of Rectum.. 9
Jackson & McMurtry Diseases of the Hair.. 9
McMurrich. Development of the Human Body 9
Modern Treatment of Nervous and Mental Diseases..... 9
Pottenger .. Tuberculin in Diagnosis, &c. 9
Sophian .... Epidemic Cerebro-Spinal Meningitis.. 9

LEWIS:—
Campbell .. Headache .... Cover 1
" .. Flushing, &c .. " 1
" .. Nervous Organisation of Man and Woman Cover 1
Moullin .... Enlargement of the Prostate .... Cover 1
" .... Biology of Tumours Cover 1

MACMILLAN & CO.:—
Ballance .. Cerebral Decompression in Ordinary Practice 6
Lockwood.. Appendicitis 6

MEDICAL PUBLISHING CO.:—
Lane, Sir W. A.. Operative Treatment of Fracture 8
" Cleft Palate and Hare Lip 8

PAGE

METHUEN & CO.:—
Cavanagh .. The Care of the Body 6
Childe .... Control of a Scourge.. 6
Clouston .. The Hygiene of Mind 6
Drink Problem 6
Gorst, Sir J. E... The Children of the Nation 6
Macfie..... Air and Health 6
Newman .. Infant Mortality 6
Newsholme Prevention of Tuberculosis 6
Oliver, Sir T. .... Diseases of Occupation 6
Sainsbury.. Drugs, &c. 6
Schofield .. Functional Nerve Diseases 6

NISBET & CO.:—
Lane, Sir W. A.. Treatment of Chronic Constipation 8
Paterson .. Practical Sanatorium Administration Cover 1

SAUNDERS COMPANY:—
Dercum's Mental Diseases. Cover. 1
Dercum .... Mental Diseases 5
Eyre ..... Bacteriological Technique 5

WRIGHT & SONS (BRISTOL):—
Short ..... New Physiology, &c. Cover 1
Smith..... Lateral Spinal Curvature, &c. .. Cover 1

MEDICAL LIBRARIES, &c.:—
Behnke— Stammering 8
Carnrick (G. W.) Co.— Metabolism Monograph Series Cover iv
Ketley— Stammering 8
Matthews Bros.— Wood: Application of Trusses 6

OFFICIAL AND GENERAL ANNOUNCEMENTS

APPOINTMENTS VACANT:—
Alnwick Infirmary 70
Bedford County Hospital..... 70
Birmingham City Asylum 73
Birmingham & Midland Eye Hos.. 68
Birmingham and Midland Hosp. for Skin, &c., Diseases 70
Bolton Infirmary and Dispensary.. 71
Bradford Children's Hospital 73
Bradford Poor-Law Union 72
Bridgwater Hospital 68
Brighton Throat and Ear Hospital 73
Bury Infirmary 69
Cancer Hospital, Fulham-road.... 69
Canterbury Mental Hospital 69
Carlisle Non-Provident Dispensary 69
Chelsea Hospital for Women 73
Chester General Infirmary 69
Chesterfield and North Derbyshire Hospital 71
City Fever Hos., Little Bromwich. 72
City of Liverpool Infectious Diseases Hospital 70
County Asylum, Whittingham 73
County Borough of Northampton Education Committee 71
Devon County Asylum, Exminster 73
Dorchester County Asylum..... 73
Dorset County Hos., Dorchester .. 72
Durham County Asylum 72
East Sussex Hospital, Hastings .. 69
Elder Dempster & Co., Liverpool.. 73
Essex County Hosp., Colchester .. 69
Gloucestershire Royal Infirmary.. 71
Great Northern Central Hospital.. 73
Grimsby and District Hospital.... 69
Hospital for Women, Soho-square. 71
Ingham Infirmary, &c., South Shields 69
Kensington and Fulham General Hospital 71
King Edward VII.'s Hos., Cardiff. 68
Kingston Union Infirmary, &c..... 72
Leeds Public Dispensary 71
Liverpool Infirmary for Children.. 73
Manchester Children's Hospital .. 70
Monmouthshire Asylum, Abergavenny 70
National Health Insurance Commission 73
Newcastle-on-Tyne Dispensary.... 71
Norfolk Education Committee 73
Norfolk and Norwich Hospital 73
N. Ormesby Hos., Middlesbrough.. 72
North Riding Infirmary, Middlesbrough 72
Nottingham Workhouse, &c. 73
Oxford County Asylum, Littlemore 70
Queen's Hospital, Birmingham .. 71
Queen's Hospital for Children 70
Rochdale Infirmary 72
Royal Albert Edward Infirmary and Dispensary, Wigan 71

APPOINTMENTS—(Continued).
Royal Alexandra Hospital for Sick Children, Brighton 68
Royal Devon and Exeter Hospital 70
Royal Gwent Hospital 68
Royal Halifax Infirmary 72
Royal Hospital for Diseases of the Chest, City-road..... 70
Royal Infirmary, Hull 69
Royal London Ophthalmic Hosp... 72
Royal National Mission to Deep-Sea Fishermen 69
Royal National Orthopædic Hosp. 71
Royal Naval Medical Service..... 68
Royal Portsmouth Hospital 72
Royal Sea Bathing Hos., Margate. 69
Royal United Hospital, Bath..... 70
St. Mary's Hospital for Women and Children, Plaistow..... 70
Salford Royal Hospital 71
Salop Infirmary 70
Sheffield Royal Hospital 69
Somerset & Bath Asylum, Taunton 71
South Devon and East Cornwall Hospital, Plymouth..... 68
Stockport Infirmary 73
Swansea General and Eye Hosp... 69
Union of South Africa Lunatic and Leper Asylums 70
University Coll. Hos. Med. School 69
University of Leeds, Faculty of Medicine 72
Wakefield General Hospital 73
Warneford General Hos., Leamington Spa 72
Warrington Infirmary and Dispensary 70
West Ham & Eastern General Hos. 70
West London Hospital, Hammersmith-road 69
Westminster General Dispensary.. 69
Wolverhampton and Staffordshire General Hospital 71
Worcester General Infirmary 68
Wrexham Infirmary 72
York Dispensary, &c. 72

ASSISTANCIES, MEDICAL 73

ASYLUMS, HOMES, &c.:—
Ashwood House, Kingswinford .. 60
Association of Medical Men Receiving Resident Patients 68
Barnsley Hall, Bromsgrove 60
Barnwood House Hospital 61
Bishopstone House, Bedford..... 60
Bootham Park, York 60
Brunton House, Lancaster 66
Buntingford House Retreat, Buntingford 64
Camberwell House, Peckham-road 60
Cheadle Royal..... 61
Clarence Lodge, Clapham-park .. 60
Colthurst House, Warford 60
Coppice, The, Nottingham 61

ASYLUMS—(Continued).
Croydon Mental Hospital 67
Dadson Nursing Homes 67
Dalrymple House, Rickmansworth 65
David Lewis Colony, Alderley Edge 60
Duff House, Banff..... 65
Ghyllwoods 63
Grove House, Church Stretton.... 61
Grove, The, Catton, Norwich..... 61
Haslemere Nursing Home 68
Haydock Lodge, Newton-le-Willows 62
Haynes, Brentwood..... 68
Heigham Hall, Norwich 60
Home for Epileptics, Maghull 60
Invernith Lodge Sanatorium, Colinsburgh 63
Kingsdown House, Box..... 60
Lady Margaret Lying-in Homes .. 68
Lady Superintendent, Streatham.. 68
London Fever Hospital..... 61
Mailing Place, Kent 61
Manna Mead, Blackheath 68
Melbourne House, Leicester 67
Meyrick, Brighton 68
Middleton Hall, Co. Durham..... 60
Moat House, Tamworth 61
Mount Vernon Hospital for Consumption 65
Newmains Retreat, Lanarkshire.. 65
New Saughton Hall, Polton, Midlothian 62
Northampton 64
Northumberland House, Finsbury-park 62
Northwoods House, Winterbourne 63
Norwood Sanatorium, Ltd..... 64
Osea Island, Heybridge..... 63
Otto House, West Kensington 67
Peckham House..... 65
Pendyffryn Hall Sanatorium, Norbrach-in-Wales 64
Pinewood Sanatorium, Wokingham 64
Plympton House, Plympton 61
Portsmouth Corporation Mental Hospital 60
Ravenswood, Golder's Green 78
Ruebury Sanatorium, Northallerton 65
St. Andrew's Hospital, Dollis Hill 68
St. Andrew's Hosp., Northampton 61
St. George's Retreat, Burgess Hill 67
St. Luke's Hospital for Mental Diseases 60
Springfield House Private Asylum, Bedford 61
Stocker, Craven-street 68
Stretton House, Church Stretton.. 61
The Grange, Rotherham 61
Vale of Clwyd Sanatorium 65
Warneford Asylum, Oxford..... 60
Wye House, Buxton..... 61
Yarrow Convalescent Home, Broadstairs 62

FINANCIAL, &c.:—
Equitable Reversionary Interest Society.. 57

HEALTH RESORTS, BATHS, &c.:—
Arosa 67
Assouan & Luxor ..... Cover iii
Contrexeville Pavilion Spring 66
Smedley's, Matlock 65
Vichy..... 66

HOTELS:—
Hampden Residential Club 53
Knowle Hotel, Sidmouth 65
Pension & Hotel Buol, Davos-Platz 66
Royal Hotel and Baths, Matlock.. 67
White Hart Hotel, Margate 67

HOUSE & ESTATE AGENTS:—
Elliott, Son & Boyton, Vere-street 75
Ley Clark, Wimpole-street 75
Snaith & Son, Darlington..... 75
Stoughton Estate Office, Leicester 75
Walbank & Co., Newcastle-upon-Tyne 74
Winkworth & Co., Mayfair 75
CONSULTING-ROOMS:—
Elliott, Son & Boyton, Vere-street 75

LIFE & FIRE ASSURANCES, &c.:—
General Life Assurance Co..... 57
National Provident Institution .. 57
Prudential..... 57

MASSAGE:—
London School of Massage 53

MEDICAL ACCOUNTANTS, &c.:—
Turner..... 74

MEDICAL AGENTS:—
Blundell & Rigby 78
Fieldhall, Limited..... 78
Manchester Clerical, &c., Assoc.... 78
Medical Agency 78
Needes, Herbert 76
Needes, J. C. 76
Peacock & Hadley..... 78
Scholastic, Clerical, &c., Assoc. .. 77
Turner 78

MEDICAL SCHOOLS:—
(LONDON.)
Charing Cross Hos. Medical School 55
London Hospital Medical College and Dental School 55
London (Royal Free Hospital) School of Medicine for Women.. 55
London School of Clinical Medicine 55
Middlesex Hosp. Medical School.. 55
Royal Dental Hospital of London.. 55
St. Bartholomew's Hos. & College. 52
St. Mary's Hos. Medical School .. 54
St. Thomas's Hos. Medical School 54
University College Hosp. Medical School 55
West London Post-Graduate Coll. 53

For continuation of Index to Official and General Announcements, and Trade and Miscellaneous Advertisements, see page 4.

An Address
ON THE
PRESENT POSITION OF POST-GRADUATION MEDICAL EDUCATION IN THE UNITED KINGDOM.

Delivered at the International Conference on Post-Graduate Medical Education, on August 7th, 1913,

BY C. O. HAWTHORNE, M.D. GLASG.,
CHAIRMAN OF COUNCIL, MEDICAL GRADUATES' COLLEGE AND POLYCLINIC, LONDON.

GENTLEMEN,—A recognition, at least in this country, of the need for the provision of professional educational opportunities for practitioners of medicine, is an experience of comparatively recent years. It has been born as a result of the numerous and varied developments which have marked the progress of the science and art of medicine during the last quarter of a century. Many of these developments have resulted from the cultivation, in special hospitals or other institutions, of full and exact knowledge of particular and selected areas of medical practice, and not a few require for their successful application technical procedures which can hardly be acquired apart from personal instruction. Hence, once granted in the profession a desire to secure the advantages of recent advances in knowledge and methods for the benefit of patients generally, and there is created the necessity for practitioners to resort to institutions where the newer methods of diagnosis and treatment can be seen in operation, and where, under the direction of experts, opportunities for the practice of these methods may be cultivated. This, in brief, is the basis on which rests the present urgency for the supply of post-graduation technical instruction for practitioners of medicine. There is much more to be known, and the claim is a constantly increasing one; there is a more widespread desire to know; there is a more lively expectation on the part of the public that the individual practitioner should know; and perhaps, also, there is greater readiness on the part of those who do know to impart their knowledge to others. Evidence of the truth of these statements is clearly written in the numerous organisations for the provision of post-graduation teaching which have come into existence in recent years. To enumerate these in detail here is not necessary, as a syllabus specially prepared for this conference supplies all the requisite information. It is sufficient to say that there is hardly a medical centre in the United Kingdom which does not make at least some attempt to provide for practitioners opportunities for the increase of their knowledge and technical skill; and in saying this, it is due and appropriate to remark that much of this effort may be traced to the example and influence of the late Sir Jonathan Hutchinson, whose recent death has removed a great figure from the ranks of the medical profession.

From the experience of teaching institutions engaged in the work with which we are here concerned, the following conclusions may, I think, be drawn. First, that there is a steadily increasing desire on the part of medical practitioners for opportunities for the acquisition of the most modern methods of diagnosis and treatment; secondly, that the teaching arrangements made for practitioners must be separate and apart from those organised for the education of medical students—the educational requirements of the two groups are not identical and cannot be successfully combined in one and the same course; thirdly, that practitioners need, more particularly, clinical demonstrations and practical laboratory instruction, but, given the right lecturer, there is a considerable appreciation of the value of systematic lectures; and fourthly, that if post-graduation instruction is to reach and energise the great body of the profession it must be provided under conditions which do not demand from the practitioner an unreasonable expenditure either of time or money.

The question which I have now to try to answer is this: How far are these conclusions in practical operation in the various parts of the United Kingdom? If nowhere the reply is completely satisfactory, it is at least true that in many centres there are activities which are full of encouragement. Taking, as is natural, in the first place, the position of the profession in London, it may reasonably be said, in reference to practitioners resident in the metropolitan area, that the conditions just defined are fairly well met. At such institutions as the Medical Graduates' College and Polyclinic, the West London Hospital, the Dreadnought Hospital at Greenwich, and the Prince of Wales Hospital at Tottenham, there are organised courses of instruction (including laboratory opportunities) in practically all departments of professional work, while many of the hospitals devoted to particular forms or distributions of disease offer exceptionally attractive opportunities for personal clinical observation and practice; in all these institutions, too, the fees are arranged on a sufficiently modest basis. It is, therefore, a comparatively simple affair for the London practitioner, without neglecting his own patients, to equip himself in any particular branch of practice which he may desire to cultivate. Here, too, it should be noticed that some of the general hospitals—St. Bartholomew's in particular—have organised admirable special vacation courses in which both hospital and laboratory instruction can be obtained at a period of the year when the demands of private practice are at a minimum. And what is true of London in these respects is true, in greater or less measure, of other large towns in Scotland, in Ireland, and in the English provinces; post-graduation educational opportunities exist in these towns and are fairly accessible to resident members of the profession.

But whatever may be true of other centres, London, certainly, may be expected to do much more than provide an educational stimulus restricted for the most part to the local profession. Here, it may be fairly claimed, is the natural centre of the English-speaking world; here, too, are both men and institutions whose names and work are household words to all interested in medical progress; and last, but by no means least, here to hand is clinical material unsurpassed either in amount or interest. Yet in spite of these advantages it is notorious that as a centre of post-graduation medical education London, in proportion to her opportunities and responsibilities, can hardly boast a mere minimum of success. In isolated instances, here and there, no doubt, excellent work is done, but on the whole it is manifest that the great body of practitioners, whether from other parts of the United Kingdom, or from the Colonies, or from America, who set themselves for a time free from practice in order to seek post-graduation instruction, seek this instruction elsewhere than in London. To effect an improvement in this state of matters several proposals may be suggested as necessary. First is required some central office or bureau where information may be obtained in reference to any or all of the post-graduation opportunities which London has to offer; at present the difficulty of obtaining such information is considerable, and repeatedly one meets practitioners who have spent days or even weeks before discovering what is most suitable to their individual requirements. The relation of such disheartening experiences will hardly encourage further visits into uncertainty and darkness. A second need is some measure of coöperation and coördination between institutions engaged in similar classes of work and practice; were this successfully effected it would be easily possible to provide throughout the year organised instruction in each department of study, whereas under existing conditions there may be at one and the same time two or three competing courses in a given subject, while at another date no teaching in the department in question can be obtained. As opportunities are thus uncertain and erratic they naturally fail to secure a steady patronage, while the multiplication of courses at one and the same time means the existence of two or three weak classes instead of a single strong one, and with this a weakening of the enthusiasm and interest of the teachers. Thirdly, if London is to take its natural place as a great centre of post-graduation medical instruction she must present an organised scheme embracing all departments of professional work, and so arranged as to provide a full daily programme for practitioners who can find from one to six months' absence from practice for the purpose of clinical and pathological study. Further, in the prosecution of this scheme there must be obtained the active support and coöperation of all London teachers whose work commands the interest and confidence of the profession. These conditions can hardly be satisfied except by the union of a general hospital, with a college which shall include in its programme the most effective teachers to be found in the

schools and hospitals of the metropolis. It has to be remembered that the aim of post-graduation study is not to persuade men to leave general practice for the narrow ways of so-called specialism, but to increase the all-round efficiency of those on whom the successful application of medical knowledge to the care of the individual sufferer mainly depends.

Now, to organise and erect in London a new hospital as a post-graduation clinical school is outside the range of practical politics. On the other hand, there are general hospitals which from various causes are anything but crowded with undergraduates, and could one of these be convinced that its true function and fortune is to become the clinical centre of an organised post-graduation scheme, a step forward in the advance of London to a position worthy of its opportunities would have been taken. What would have to be added is (1) the association with the hospital of a wide and liberal platform which would welcome all effective teachers and would not be confined to a particular hospital or group of hospitals, and (2) an organic arrangement with certain special hospitals where particularly valuable opportunities for clinical study may constantly be found. It is not to the point to say that something of this kind, on a limited scale at least, has been attempted at certain hospitals in the outlying districts. These are too far afield to be regarded as London organisations, and, what is more important, they can neither secure the teaching staff to be desired, nor can they be effectively coördinated with the special hospitals upon which in a large measure the attraction of London as a post-graduation school must certainly depend. What is required is the position and prestige of a metropolitan hospital in association with a wide scheme of teaching and with the opportunities of the special hospitals. It is not the multiplication of schemes for post-graduation study which is needed in London, but the coöperation and coördination of existing schemes, and the organic relation of these to a central bureau and to a general hospital. By the development of some such organisation London might well become the centre of post-graduation study for all English-speaking practitioners, while within the borders of the plan could easily be preserved the opportunities which already exist for practitioners resident in the metropolitan district and able to devote only a limited amount of time weekly to the cultivation of some selected branch of clinical or laboratory practice. So long as London is something less than this it is living below the height of its opportunity.

The demand which is thus made on the metropolis falls, at least in some degree, on each of the other important medical centres of the United Kingdom. None of these can expect to enjoy the full measure of imperial attraction which London possesses, but each commands a certain area of interest, and has in this area a corresponding responsibility for the care of post-graduation education. In many of them the development of the necessary organisation is a much simpler affair than is the corresponding process in the metropolis. The natural centre in the shape of the medical school and hospital already exists, and with a mere minimum of competing and conflicting interests. What can be done in this direction is shown by the success of the post-graduation courses in the schools of Edinburgh, and Dublin, and Glasgow; and it can hardly be doubted that these examples will be imitated at other centres. When this is accomplished, there need hardly be a practitioner in the British Isles far removed from an efficient opportunity for a periodical process of post-graduation study, with consequent benefit alike to himself and his patients. It surely ought to be the ambition of every university to take its appropriate part in the development of a scheme whose aim is efficiency through improved education.

The opportunities for post-graduation education are not, however, monopolised by the medical schools. There is no reason at all, quite the contrary indeed, why the county and other provincial hospitals should not, each in its own district, take a due share in the process. Many of these institutions are admirably equipped, and yet it is to be feared that not infrequently they exercise but little influence, or at least but little educational influence, on the local profession. Why should not the visits of the members of the staff of each hospital, at least at selected dates, be occasions for a clinical class from the presence of which patients as well as teacher and taught would all alike benefit? It would not only be to the advantage of the hospital that each member of the local profession should regard the hospital as the centre of an organisation in which his interest is engaged and of which he forms a part, but such an arrangement would enlarge the range of clinical knowledge. In the separation which now exists, only too generally, the later phases of many cases discharged from the hospital are largely or completely lost; the practitioner who watches them receives no information from the hospital, and, perhaps not unnaturally, he feels no obligation to take trouble to complete the earlier record. In relation to the local hospital every practitioner should be recognised as a helpful and necessary part of the organisation, and while he may receive some advantages, in his turn he will contribute others to the success of the whole. Possibly before this ideal can be completely realised some new arrangement in reference to staff appointments and some restriction to particular lines of practice of the holders of these appointments may be necessary. If a high level of efficiency is to be reached in any branch of practice there must be some specialisation, and it is a reasonable claim that those who enjoy the special opportunities which hospital appointments present should show that their achievements are equal to their chances. Lastly, in this connexion may be mentioned the Poor-law infirmaries, which contain an abundance of material capable of affording most valuable clinical instruction; all that is needed is some measure of organisation and a demonstrator, with, what is perhaps not so easy to obtain, the enlightenment of the authorities who preside over the administration of these institutions.

If in individual instances nothing else in the shape of local post-graduation teaching is possible, it may be suggested that at least the post-mortem examinations conducted at hospitals and Poor-law infirmaries should be open to members of the profession. These are always instructive and often helpful, and it is a constant regret amongst earnest practitioners that they have so few opportunities of seeing such examinations. It would be easy to allow any practitioner to enter his name on a list prepared for the purpose, and to send to him at least a few hours' notice of any necropsy which had been arranged; and this, good in itself, might well come to be the early beginning of some more ambitious scheme. To say, in view of the present state of public and professional opinion, that any hospital which is not organised as a post-graduation educational centre is neglecting its duty, would be, perhaps, too much, but if not neglecting its duty it is at least missing its opportunity.

Whether the suggestions here submitted are or are not accepted, it will certainly be agreed that there is considerable room for improvement in the machinery of post-graduation medical education as this exists to-day in the United Kingdom. If the movement towards such improvement is to be accelerated, there must be a quickening of both professional and public opinion in regard to the importance of the subject, and it would be all to the advantage, both of medical science and of the health of the community, if members of the public came to expect from their medical advisers an occasional interruption of general practice by a period of work in some post-graduation organisation. Such a result cannot be obtained without expense, and as the ultimate benefit would be to the public it is reasonable that the public should bear at least some part of this expense. This might be in the shape of increased professional fees, or, perhaps still better, by the endowment, either by private benefactors or the public authorities, of certain post-graduation educational institutions in order that these may be accessible to practitioners at a minimum of cost. Certain it is that money devoted to a general raising of the efficiency of medical practice throughout the length and breadth of the land would have a large, a profitable, and a beneficent return.

This Conference stands for the cause of post-graduation medical education. Doubtless we in this country have much to learn on such a subject from our continental and trans-atlantic colleagues; if even in a modest measure we can give them some assistance we are more than content. We cordially recognise that the organisation which calls us here to-day deserves all our sympathy, if only for the reason that it affirms the extension of knowledge and the culture of efficiency among practitioners of medicine to be interests common to all nations and independent of distinctions of race and tongue. To the promotion of these interests are summoned all men of goodwill, and that by a voice which speaks a universal language—the cry of a suffering humanity.

PAIN AND SLEEPLESSNESS:

THEIR REMEDIES APART FROM THE CONSIDERATION OF LOCAL SEDATIVES OR ANÆSTHETICS.[1]

BY ROBERT JONES, M.D. LOND., F.R.C.P. LOND.,

RESIDENT PHYSICIAN AND SUPERINTENDENT, LONDON COUNTY COUNCIL ASYLUM, CLAYBURY; AND LECTURER ON MENTAL DISEASES, ST. BARTHOLOMEW'S HOSPITAL, LONDON.

PAIN is a sensation experienced by all reflective living things. It has many definitions, but is best described as an uneasiness, varying from a feeling of slight discomfort to extreme distress; and it may arise from the derangement of any function; also from violence, pressure, or undue tension in any part of the body. It has many synonyms—e.g., anxiety, grief, solicitude, disquietude, mental distress, uneasiness—and according to its quality and intensity it may amount to agony, torture, or torment.

Bain classified pain as of two chief kinds: (1) that which is connected with the different special senses and perceived by the action of external things on some part of the body—described therefore as sensitive; and (2) pain caused by the disturbance of the various organic sensations, which are the source of all stable associations, being based upon the satisfaction of the appetites, the instincts, and the desires.

The organic sensations are many and varied. There are, firstly, those connected with the muscular feelings which either follow injury or which may result from fatigue or lack of repose; secondly, those connected with affections of the nerves either in disease or through injury, weariness, or exhaustion—these may sometimes be relieved by sedatives or the so-called "stimulating drugs" which operate directly upon the nervous system; thirdly, those connected with the circulation, which may be caused by long confinement in one position, or, as in disease, those more specific pains which indicate *angina pectoris*, caused by excessive tension in the heart and blood-vessels—changed conditions of the various tissues come under this head, such, for instance, as those experienced in thirst or inanition, and believed to be due to the contact of altered blood with the different parts of the body; fourthly, feelings of pain connected with respiration, as is experienced in the pain of suffocation; fifthly, feelings of pain relating to heat owing to the coagulation of the neuroglobulin, and pain from cold caused by an interference with the circulation; sixthly, painful sensations connected with the alimentary canal, as every one has noted who has experienced indigestion or felt hungry, or who has been sensible of nausea, as in sea-sickness; and lastly, uneasy sensations arising from the sexual organs. These latter are the organic sensations related to the preservation of the individual as well as of the species.

Possibly Bentham, who stated that Nature had placed mankind under the governance of two sovereign masters—Pain and Pleasure—was the first to classify pains in any definite scheme, and he divided them into: (1) the pains of privation, (2) of the senses, (3) of awkwardness, (4) of enmity, (5) the pains of an ill name, (6) of piety, (7) of benevolence, (8) of malevolence, (9) of the memory, (10) of the imagination, (11) of expectation, and (12) of those dependent upon association. As Bentham states, man may pretend to abjure their empire, but in reality he will always remain subject to pain or pleasure.

Bain enunciated an axiom that all pleasurable sensations were concomitant with an increase, and all painful ones with a decrease of some or all of the vital functions. For this reason pain has a distinct biological value; it warns us against harm and therefore against a lowering of the vital energies and functions. It is for this reason that Richet described pain as the fundamental element of human progress, and Sherrington considered it to be a psychical adjunct to the protective reflexes. Pain more than pleasure is the basis of voluntary action, for when the body is in a state of nutritional equilibrium there is an absence of pain and the body needs no protective warning.

Within the last few years much has been added to our knowledge in regard to the physiological aspect of pain. It is pointed out that there are special and separate heat, cold, touch, and pain spots in the skin, and that there are two systems of cutaneous sensibility—e.g., if a nerve supplying a certain skin area is divided, at once there is loss of heat and of cold sensations, also loss of pain and indifference to the feeling of light touch; but feeling connected with heavier touch (such as a pin-prick) remains unchanged, owing to the deep-seated nerve fibres round the muscles and tendons being intact. The affection called syringomyelia confirms this, for in this disease there is sensory dissociation; tactile sensation remaining unimpaired, whilst there is a loss of sensation to pain, heat, and cold. Menthol is known to stimulate the cold spots and solid carbonic acid the heat spots.

Pain sensations pass along the lateral columns of the cord to the optic thalamus; but the cortex of the brain is itself insensitive, as this part of the brain may be cut without pain, and further, pain as an aura in epilepsy (which is a cortical lesion) is unknown. Dr. H. Head has shown that pain in an internal organ may be outwardly "referred" to the skin, because the afferent fibres of the sympathetic nerves, by means of the white rami, enter the same segment of the cord as the sensory cutaneous nerves, and the internal organs irradiate their impulses to the neurons of the cutaneous nerves, thus "referring" the pain to a skin area. Although reflex actions are by themselves practically useless for self-protection, and although instinctive actions are unable to adapt themselves to a new environment, pain is an afferent impulse that appeals to the intelligence, which is thus able to direct and to foresee a result, and so to prevent the continuation of a harmful stimulus.

Pain is therefore good for the mental and moral development of mankind, and a knowledge of things may thus help the individual to avoid pain; further, the more delicate the organ—e.g., the eye or the ear—the more does it feel pain, and the greater the effort to avoid it. The same applies to a highly cultured and refined person as contrasted with a person on a lower plane of development. Every thought and every idea tends to become effective outwardly, and every idea in addition has an affective tone of its own, the sum total of all the sensations tending to give the personal note to any individual consciousness.

The affective tone of the whole of this summation of sensations is a constantly oscillating state of feeling, sometimes higher than the mean point of equilibrium and sometimes lower. In the one case the feeling of pleasure is experienced and in the other the feeling of pain. Feelings of pleasure or pain are both enriched and intensified by perceptual and intellectual associated memories, which increase the vital functions when pleasurable, and we desire to experience them again, but if painful they lower the vital functions and we desire to avoid them. All conditions which interfere with or suppress the fulfilment of the appetites and desires or which interfere with the physical or psychical "tendencies to action" give rise to painful states, and the chief cause of sleeplessness is mental or physical pain or suffering in some form or another.

Sleep is a bio-rhythmic rest and a necessity of life; even organs like the heart with an autonomic nerve-supply require and obtain rest. As to the cause of sleep the question has been a matter for much speculation. Durham's observations suggest a diminution of the blood-supply within the cerebral cortex, and my own experience can support this in a case at present under my care. The patient was operated upon before admission into the Claybury Asylum for a malignant growth of the brain through a trephine hole over the left parietal area, but the tumour has since reappeared through the surgical opening in the bone, and when the patient is asleep the size of the presenting tumour is distinctly smaller in all directions when measured with a pair of millimetre calipers. It is well known that sleep produces a depression of the functions of other organs than the cortex, for in sleep the circulatory and the respiratory systems are both retarded, and this retardation under the influence of sedatives may amount to a complete cessation, which is the danger when drugs are taken without medical authority in order to produce sleep. Lépine long ago suggested that there was a temporary shrinking of the extremities of the neurodendrons in the sensory anæsthesia and the motor paresis of hysteria, which would account for the interruption and suspension of their normal functions. Duval agreed in this, but Kölliker denied the occurrence of amœboid movements. Ramon y Cajal sided with Kölliker, but Demoor, Stefanowski, and Querton state that the retraction of the moniliform processes upon the dendrons can be

[1] A paper read as a reporter to open the discussion before the Section of Therapeutics at the Seventeenth International Congress of Medicine.

proved, and that sleep is caused by such retraction. Lugaro stated that the gemmules of the dendrites can expand and contract, that they expand during sleep and contract during the processes of thought, so that in the former nerve currents are diffused and widely distributed, whilst in the latter nerve currents are accentuated and concentrated, and thus is physiologically explained the process of attention.

The experiments of Winterstein tend to prove that in sleep there is a diminution of oxygen storage and an accumulation of fatigue products. Verworn suggests that in sleep there is a *restitutio ad integrum* of the brain functions, and during this process there is an increased consumption of oxygen in the tired neurons, and he contrasts sleep with anæsthesia during which there is no repair of wastage and oxidation ceases. He agrees that sedatives may be of benefit by causing sleep, but he also maintains, if I understand him rightly, that sleep only follows the effect of sedatives when their "paralysing effects" have passed off.

When the living neuron is kept in an isotonic medium it readily takes up the blue of the intra-vitam methylene blue, showing the power of converting latent into nascent oxygen, but when the neuron is placed in a weak solution of hydrochlorate of morphia there is no blue colouration of the neurons with the intra-vitam stain, showing, unless the acid medium causes it, that the power of the narcotised cell to take up oxygen may be paralysed. Verworn maintains that a narcotic hinders the access of oxygen to the nerve cells, or to the oxidisable material in the cells, and he thinks the lipoid substance is the oxygen carrier. The narcotic may, however, act upon cell protoplasm, making it less able to be oxidised, or the narcotic itself may absorb the oxygen and so prevent the cell using it for its own oxidation process. It is also possible that these oxidation changes may occur in the synapses of the neurons, and in particular the synapses of those neurons which receive the stimuli from the different sense organs, a "refractory phase" thus occurring which raises the resistance to the passage of impulses from without; and in the opinion of Leonard Hill the cessation of sensory stimuli from without, which ordinarily arouse consciousness, is the great factor in sleep. He considers the resistance to the spread of stimuli in association synapses to be due to the exhaustion of material in the nerve cells, and so to be the essential condition for sleep. Meyer and Overton attempted to explain the action of insoluble drugs like sulphonal in producing sleep by suggesting that their solubility was effected in the plasma-lipoid membrane of the neuron itself, but the observations of Winterstein as to the diminution of oxygen storage seems to be the more likely view, and it is supported by the presence in sulphonal poisoning of hæmatoporphyrin in the blood and urine, which is chemically a deoxidised hæmatin. When the Nissl granules were considered a normal constituent of the living neuron a theory was advanced by A. Salmon, of Florence, that their integrity depended upon the secretion of the ductless glands, and of these the pituitary was believed to be the one most closely connected with sleep. The ductless glands may play an important part in the sleep of hybernating animals. Whichever theory be accepted as the cause of sleep, the treatment of sleeplessness is "to break the habit," which should be done by removing the causes, and these may be classified as either physical or mental and moral.

It is my belief that although the normal amount of sleep may vary in different individuals, it should always be extended to at least 12 hours for children under 5 years of age, and to at least 10 hours up to the age of 15—i.e., during the period of active growth, and attention has already been called to this by Dr. T. Dyke Acland. I believe the increase in insanity in boys under 15 years of age which has been recorded during the last ten years (and calculated on the basis of the same Census), and in girls from the age of 15 to 20 years, could be modified by the extension of the period of rest in bed. Over 3000 cases of young persons of both sexes under the age of 20 years are registered as becoming insane every year in England and Wales, and, as already stated, insanity at this age, according to the Lunacy Commissioners' statistics, is on the increase. It is asserted that only during the period of sleep does anabolism or the restoration of the neuron take place, and it is imperative for the preservation of the health of the nervous system that every assistance should be accorded to young persons to obtain the proper amount of sleep.

Of the physical causes of sleeplessness, a moderation in the use of tobacco will sometimes prevent wakefulness. Arterio-sclerosis, with high arterial tension, bronchitis, asthma, feeling cold, especially cold feet, over-fatigue, strange or new surroundings, the presence of light, or of any unusual noise will cause sleeplessness, apart from a host of other causes. Tea and coffee drinking as well as excessive alcohol and the various drug habits are frequent causes of sleeplessness. High altitudes or sleeping near the sea are both causes of sleeplessness to some persons, but pain of some kind or another is the most frequent physical cause. Among the moral or mental causes are anxiety and worry, domestic or financial stress, grief at the loss of a near relative, loss of social position, or the overwhelming effect of one great emotion, such as the breaking off of a girl's engagement, have all been known to me as the cause of sleeplessness and also of mental breakdown. Mental overwork for the young, owing to the anxiety associated with it, and the stress of severe competition, such as working for examinations, have also in my experience had the same effect. I have known nurses who had taken to night duty for the first time to be absolutely unable to sleep during the day, and in consequence have had to give up their work.

The logical, and therefore the correct, treatment of pain and sleeplessness from the clinical standpoint is to remove the cause, and failing this to treat the symptoms. The remedies for these may be considered as either direct or indirect, and firstly the direct, which (*a*) act upon the cortical grey matter or its blood-supply, and which are therefore the more purely hypnotic remedies or drugs; and (*b*) those which act upon the whole of the nervous system as sedatives, anodynes, analgesics, and narcotics. Secondly, those which, although themselves not sedatives, nevertheless act as such indirectly by removing the disturbing conditions that cause the sleeplessness or pain. As to the latter, I have known restless days and sleepless nights to be relieved by removing carious teeth, and of the many causes of insomnia possibly this is one which is very frequently overlooked. I have met with cultured and educated persons whose general vitality had been lowered and whose digestion had been seriously impaired from long-continued oral sepsis through the neglect of carious teeth, and to whom want of sleep had become almost a cause of insanity. I have also known headache so persistent as to culminate in a complete mental breakdown and in a direct attempt at suicide, because of eye-strain through the presence of an undiscovered myopic astigmatism which the use of proper glasses completely restored. The removal of adenoids, and of wax from the ear have relieved insomnia. The same applies to the irritation of teething in young children or to the effect of intestinal worms.

The condition described as intestinal auto-toxæmia may also, in my experience, be associated with sleeplessness, and a variation of the intestinal flora through a change in the dietary, as suggested by Sir Lauder Brunton and Dr. Brunton Blaikie, has often been the means of relieving insomnia and restlessness. The treatment suggested, which is as follows, was commenced after examining the collected urine of 24 hours for the presence of indican, and was carried out somewhat extensively in mental cases. The first day, half a pint of warmed (not boiled) milk, with 3 grains of citrate of potassium every two hours during the day, and 1/16th grain of calomel every two hours (six doses). The second day, 2 drachms of sulphate of sodium in half a pint of warm water at 6 A.M.; at 8 A.M. and every two hours afterwards (except if asleep during the night) half a pint of warm water with one ounce of grape sugar—the latter to be lessened if there was diarrhœa. The third and fourth days as on the second, but without the sulphate of sodium. The fifth, sixth, and seventh days half a pint of a solution of plasmon specially prepared with a pinch of salt every two hours. The week's treatment as above directed so altered the toxæmia caused by the intestinal flora that in a large number of cases it gave refreshing sleep, it diminished mental depression, improved the appetite, and assisted the elimination of indoxyl sulphate, skatol, and others of the incomplete urates—all of which appear to act as ptomaines. In mental cases the great difficulty on the part of the patient was to persevere with the treatment.

The sleeplessness of many elderly and middle-aged men is often caused by commencing arterio-sclerosis, and for these erythrol tetranitrate acts better than any sedative.

Other effective although indirect remedies for sleeplessness, associated with increased arterial tension, are podophyllin gr. ¼, extract of colocynth gr. ii., aloes gr. ii., and elaterium gr. 1/10. The various eliminating laxatives and purgatives, probably the best of which is calomel in one-half or one-grain doses taken once a week, are most valuable remedies for sleeplessness. Even a minin of croton oil is a valuable as well as an active remedy. The hydragogue cathartics, such as the sulphate of magnesium and sodium, when administered should be repeated for some time after the commencement of watery evacuations, as otherwise the motions may not become feculent. Iron associated with arsenic may be very successfully used as an indirect sedative for the cure of the anæmia which is often a cause of mental restlessness. I have generally used the persalts combined with glycerine and chlorate of potassium, but sometimes iron in an effervescing state, as a chalybeate water, may answer better. Iron preparations may act upon the neurons direct, as the cytoplasm contains iron organically combined, but probably it acts indirectly by curing the anæmia and thus relieving the restlessness and the sleeplessness known to accompany it. I have known marked permanent good to follow its use in epileptic insomnia, as also the insomnia so often occurring in anæmic girls with irregularity of the menses.

By adding tone to the cerebral arterioles digitalis may act as a cerebral sedative, especially in the distressing wakefulness of delirium tremens, thus probably causing a certain amount of cortical anæmia. In certain cases of acute insomnia associated with cardiac failure I have known repeated doses of 10 minims of digitalis or 5 minims of the tincture of strophanthus give refreshing sleep. When strychnine is used its effect is best kept up by alternating it with 5 minims of the tincture of nux vomica for a few weeks, with a week's interval in between. Digitalis effectually prevents passive congestion in lax arterioles, as when the patient previously was only able to breathe with much effort and only by sitting up in bed, after taking digitalis he was able to obtain quiet sleep in the recumbent position. The extract of Calabar bean or the liquid extract of ergot has given sleep and rest, as well as relieved excitement in some cases probably by inducing contraction in the cerebral arterioles. I have used both in cases of puerperal eclampsia and in the epileptiform seizures of general paralysis, also in those associated with epilepsy.

When the pulse was bounding, firm, and full, I have used venesection—and both sleeplessness and excitement in the status epilepticus have been thus controlled. In sleeplessness with cerebral excitement, tartar emetic in the form of the vinum antimoniale given with morphine, by lessening the arterial pressure, has been found a reliable vascular sedative. Tartarated antimony is a muscular depressant and it acts especially upon the cardiac muscle through the terminal vagi. The tincture of aconite in small repeated doses in certain periodic forms of sthenic restlessness, or in states of recurrent excitement, serves as a useful vascular sedative.

I have used continuous immersion in water just above the body temperature, and the treatment has sometimes resulted in soothing sleep following upon a period of marked delirium, and especially was this so when cold was applied to the head at the same time. A case of chorea with high temperature is related by Dr. F. W. Mott to have been almost at once soothed by this treatment of warm bath and cold to the head. The difficulty of applying prolonged immersion as a method of treatment with mental cases is the unreasonable fear entertained by the patient, and the consequent struggling, and for this reason I have been obliged to discontinue the practice, except in very rare cases. As to the *rationale* of continuous immersion I am unable to find from the experience of others whether its therapeutic value is due to changes in the arterial tension brought about by the mechanical effect of the bath water, or whether the heat of the water acts as a derivative, or whether the bath water encourages some change in the metabolic activity of the tissues, thus acting as a sedative. I have used the wet-pack for sleeplessness with acute delirium, but the method is not without danger from sudden or unexpected collapse, and it is a remedy which needs caution in its use. Moreover, it is one which in the case of certified patients has to be specially reported to the Lunacy Commissioners as "restraint." I can speak very highly of the efficacy of the Turkish bath and of motor drives, but I have no personal knowledge of the value of hypnosis.

Phosphorus is a remedy for nervous breakdown and nervous exhaustion which has a great vogue among the laity. The tissue of the nerve cells contains phosphorus, and we know that lecithin in acute exhaustive states of the brain breaks up into cholin and glycero-phosphoric acid, but phosphorus to the brain in sleeplessness is not what iron is to the blood in anæmia, although some of the glycero-phosphates still enjoy a high place as remedies in states of nervous breakdown and sleeplessness in order to restore the nervous system.

Alcohol administered with easily digestible fluid nourishment during periods of acute exhaustion serves as a most valuable sedative, but it needs to be used carefully in view of the fatal habit of indulgence for its stimulating pleasure. I have used it for the acute delirium and for the insomnia of the toxic fevers and states of puerperal sepsis with marked good effect. The abnormal rapidity of disintegration in some of the forms of brain exhaustion called acute confusional delirious mania and acute restless melancholia impairs the nutrition so rapidly that death may occur before the insomnia and the delirium subside, unless the strength is maintained by giving stimulants; and in no other condition is the vigorous administration of alcohol with appropriate forms of nourishment more necessary. If life is to be saved in these states alcohol must be administered, and although there are several kinds of alcohol from the methyl, ethyl, propyl, butyl, and amyl groups, the best form to hand is a dry Moselle, such as Zeltinger, or a dry sherry. I believe the easily diffusible œnanthylic ethers of port wine, or an effervescing champagne, may save life in such states. In spite of all help, however, the deaths from this form of mental exhaustion in my experience are 70 per cent. of all the cases affected, and statistics in regard to them also yield the same fatality in the best mental hospitals in America. To counteract exhaustion and to maintain power the free administration of stimulant nourishment is imperative. The alcohols are stated by Dr. J. B. Bradbury to increase in toxicity as they increase in molecular weight, but their stimulant and hypnotic effects are increased more than their toxic effects with their increased molecular weight. As to nourishment, I have used plasmon, Benger's food, and sanatogen, the latter, which is stated to be casein with glycero-phosphate of sodium, being more useful as a nerve restorer when alkalines are needed. Dr. Charlton Briscoe states that when the urine is acid the vegetable phosphate food phytin may give sleep when other remedies fail. I have used as indirect sedatives Mellin's food, cornflour, broths, biscuit powder, milk and soda, albumin water, raw meat juice, gruels, beef juice, and peptonised beef tea in states of nervous exhaustion and sleeplessness.

Loss of sleep is the most prevalent and certainly the most distressing early symptom of insanity, and absolute repose is necessary if the patient is to recover. Unless sleep can be procured he or she will most certainly break down. Sleep is essential and must be procured at all cost, even at the cost of pushing sedatives to the full extreme. Sleep is more necessary for both rich and poor than food. An impending mental breakdown may be avoided by long sleep, and it is incumbent, obligatory, and necessary that the medical man should administer sedatives to secure this if it cannot otherwise be procured. The great difficulty is to choose which to give, another difficulty is to understand how sedatives act. I once administered ½ grain of morphia to a case of threatening puerperal insanity in which the patient had been sleepless for five nights. She slept for 36 hours, but woke up perfectly well, so far as the mental confusion and delirium were concerned, and I believe that in this case an attack of insanity which had started was cut short.

Although morphia, in my opinion, is the best remedy for the prolonged delirium of exhaustion or of septic feverish states, yet there is much danger from its use. Firstly, there is the habit and toleration which may follow its repeated use; secondly, there is the serious risk from it in the young or with children owing to its depressing effects upon the respiration; and, thirdly, there are the digestive disturbances which so often follow after taking it.

Of the direct sedatives opium is *par excellence* at the head of the list, and probably the type of the group of direct sedatives. It owes its chief medicinal and remedial effects to the alkaloid morphia (dose 1/12 to 1/2 grain subcutaneously). Opium and its derivative morphia are

certainly the best remedies for the prolonged pain of growths, tumours, and the exhausted states of feverish delirium. Opium controls "psychic pain" better than any other remedy; it is a cardiac stimulant and is a specific for the acute mental depression met with in old people, in whom it acts as the most reliable antithetic remedy to painful emotional states, but there must be remembered the very real danger of the opium and morphia habit through its use. Combined with belladonna it is most helpful for alimentary, digestive, and "vagal" pains. The anodyne tincture or nepenthe, imcompatible with alkalies, consists solely of opium, and its uniformity of strength has commended its use for the same conditions as are relieved by opium. It was claimed that nepenthe produced less after-effects, less headache, giddiness, constipation, and less diminution of nervous energy.

Conium preparations are generally unreliable, but I have used the succus conii in drachm doses for the motor restlessness and the insomnia of chorea and of acute mania. The vapor conii is very helpful as an inhalation for the sleeplessness of bronchial asthma. The uncertainty of conium preparations is apparently due to the presence of two alkaloids present in varying quantities but with dissimilar effects. The alkaloid conia has a direct effect upon the terminal endings of the motor nerves, lessening their excitability, whilst methyl conia acts directly upon the cord, first exalting and then abolishing its reflex action. As is well known, the unguentum conii is a specific for the night restlessness of pruritus. Camphor monobromate, in five-grain doses, has proved a useful sedative in the sleeplessness of epilepsy and chorea, as well as in other forms of spasmodic excitement.

Chloral hydrate has the disadvantage of weakening and depressing the heart's action by paralysing its intrinsic motor ganglia, and directly also, but less than morphia, of affecting the respiratory centre in the medulla. All circulatory and respiratory conditions, as well as all acute and prolonged diseases, are, in my opinion, from experience, a contraindication to the use of chloral, but I have prescribed it extensively. It is a feeble anodyne, relieving pain only by causing sleep; it is a most useful remedy for simple and uncomplicated insomnia. It acts by depressing the reflex activities, and it should never be given at night in full doses without a hot-water bottle to the feet. It is very useful in puerperal insomnia. There are idiosyncrasies in regard to chloral, and I have known a severe petechial eruption to follow its use.

Bromal hydrate has been used in doses of 3 grains to relieve pain and produce sleep, but in my opinion it is somewhat too irritating unless freely diluted. Bromalin has been used as a hypnotic as well as for epilepsy, but I believe that few now employ it. Chloralamide, recommended by von Mering to overcome the depressing effects of chloral on the circulation because of the ammonia it contains, in doses of 15 to 30 grains, is a very useful hypnotic, combining the effects both of chloral and of bromide. It is stated that a less quantity is absorbed than when chloral is given.

Chloralose, introduced by Henriot and Richet, and given in 5-grain doses, has been used by me as a safer hypnotic than chloral. It is believed to increase the reflex activities. I have used croton chloral hydrate in 5-grain doses to relieve the sleeplessness depending on paroxysmal neuralgic pain of the fifth pair of nerves. Paraldehyde, introduced by Cervello, is a safe hypnotic in doses by the mouth of ½ to 2 drachms, and twice the amount by rectum. It gives calm sleep without depressing the respiration or the circulation. The pulse gains under its action, and in the insomnia of alcoholic drinks it is superior to and safer than chloral. It is not an analgesic nor a sedative, but a hypnotic, and possibly the best known for cardiac weakness and for the restlessness of old people. I have used it largely, and the only contraindication to its use is bronchitis, phthisis, or some affection of the respiratory tract by which it is mostly eliminated.

Validol, m. x., which is a valerianate of menthol, is used as a nerve sedative to relieve mental pain and anxiety and the apprehensiveness or the feeling of fright sometimes felt in states of depression. It is used also in insomnia attendant upon sea-sickness. Valerian itself in large doses can often give sleep in agitated cases of neurasthenia or in the sleeplessness of hysterical insanity. As a cooling external application validol camphorate is said to be useful; it is also useful for faintness, because it stimulates the "cold spots" on the skin, as does menthol. I have recently used trivalin subcutaneously as a pure hypnotic. It acts quickly and leaves no bad after-effects. It is a trivaleriate in morphia, cocaine, and caffeine. Lupulin, in 2-grain doses of the form of a brown powder obtained from the cones of the humulus lupulus, and given at bedtime, may produce sleep in the case of hysterical and neurasthenic cases of both sex. A pillow filled with hops is said to promote sleep, from the lupulin which is probably inhaled.

Possibly of all the sedatives, the bromides are the most valuable to the nerve centres; they slow down the spinal reflexes and soothe cortical motor areas. They are more useful for the sleeplessness which is associated with restlessness and excitement rather than sleeplessness associated with depression. All the bromides are most useful in the sleeplessness which accompanies overwork, or that which may be associated with tactile hallucinations, also that restlessness which arises from uterine affections reflexly and about the period of the climacteric. In "night terrors" and certain forms of occipital headaches associated with neurasthenia the bromides may be considered to be "specifics." Combined with chloral, or chloral, hyoscyamus, and cannabis indica, as in the formula for "bromidia," the bromides will produce a refreshing sleep in senile insomnia with mental depression and agitation, or in acute hallucinatory restlessness, when every other remedy has been tried and failed. The bromides, with citrate of caffeine, gr. v., are most useful in some forms of headache at or about the climacteric period. Some of the analgesics of the coal tar derivatives act as hypnotics—e.g., antipyrin, gr. v. to xx., phenacetin gr. x. (with quinine gr. i. or citrate of caffeine gr. iii.) are especially useful for headaches coming on about the menopause. Pyramidon, in doses of gr. v. to x., has been used as a sedative as well as an antipyretic. The addition of bromine as in bromo-phenacetin helps this action.

The bromides are best given in single large doses than in small repeated ones, and they are best administered in an alkalinised medium, as an adjuvant, such as a glass of milk. A contraindication to the bromides is valvular heart disease, for they act as cardiac depressants. Strontium bromide may be used in preference to the potassium salt when there is heart weakness, and the sodium bromide when there is gastric irritation. The long-continued use of the bromides gives rise to a rash, as well as a weakened motility, stupor, and hebetude; to loss of memory, impairment of the intellect, and to mental torpor, but some of the dementia may pass off when the bromides are discontinued. Bromipin, an oily compound of bromine, in ½-drachm doses is useful in sleeplessness and for headaches after epilepsy, or in sleeplessness connected with neurasthenia, as well as with some motor disturbances such as those of sea-sickness.

Cannabis indica is useful in sleeplessness associated with migraine, or with asthma, or with uterine spasm, and especially when combined with the bromides. It is apt to cause unpleasant hallucinations in some women. Scutellaria lateriflora in doses of 15 grains has been recommended as a cure for insomnia, epilepsy, and spasmodic nerve diseases. Piscidia—the bark of Piscidia erythrina, commonly called the Jamaica dogwood, a tree growing in the Antilles, has been greatly lauded as a remedy for insomnia and the pain of dysmenorrhœa. It is said to act upon the sensory ganglia of the spinal cord—dose, 20 min.–2 dr. of the liquid extract prepared by Parke, Davis, and Co.

Chloroform has been used as a hypnotic both by inhalation and internally in the form of chloral. In the extreme restlessness and the excitement of epilepsy, when morphia in ordinary doses fails to produce effect and when the patient is rapidly becoming exhausted from loss of sleep, chloroform has been administered, and while the patient remained unconscious morphia was injected subcutaneously; long-continued sleep resulted from which the patient woke up greatly refreshed, and from that time convalesced.

Hyoscyamine, in the form of hyoscine hydro-bromide, and in doses of 1/100–1/10 grain, is used hypodermically, but rarely to procure sleep. It is very beneficial as a sedative in the restlessness of acute delirium, or the excitement of epileptic or hysterical cases. It acts quickly and upon the reflex centres, causing muscular paralysis; it dilates the pupil, causes dryness of the throat, quickens the pulse, and generally lowers the arterial pressure through stimulation of the vaso-dilator nerves. It should not be used for feeble cases, but only for strong, muscular persons, who must be

calmed at once without waiting for the delay which accompanies the administration of other sedatives, such as chloral, the bromides, or sulphonal.

The methane, ethane, propane, and butane group are used extensively for their hypnotic effects, and not as anodynes.

Sulphonal, tetronal, and trional are all comparatively insoluble powders, and are taken in doses varying from 10 to 30 grains. Sulphonal, which is tasteless and odourless, is the most often employed, and tetronal, which has a camphor taste, the least. The sulphonal group are cumulative in their action; muscular exercise diminishes their influence, so that to obtain full effect the patient should be kept in bed. Being almost insoluble in water, although less so in warm alcohol, their effect as hypnotics are stated to be due to their solubility in the lecithin or the cholesterine of the nerve-cell. Winterstein's experiments seem to suggest that all hypnotics are effective because of their deoxidising powers over the plasma lipoid material of nerve-cells, and, as stated, the hæmatoporphyrin found after taking sulphonal, which is a form of deoxidised hæmatin, would seem to support this view. Their action is certainly to disintegrate the red blood corpuscle by breaking up the lecithin. I consider that sulphonal is a strong neuronic poison, probably disintegrating the lecithin of the nerve-cells. Sulphonal is believed to diminish the alkalinity of the blood. It should only be used for the sleeplessness of chronic cases.

The urea compounds are also useful, and veronal, adalin, proponal, and bromural, all of which are colourless and tasteless crystals, are of this group. Each of these is more soluble in hot water than the methane group, and all are more soluble in alkalies, hence their effect is believed to be retarded until the intestinal juice has acted upon the drug. The urea groups are all more hypnotic in their effects than the mathane or ethane groups. They are useful for the insomnia of restless nervous cases, those with anxiety and depression, which come on—as is usual in the case of melancholics—in the early hours of the morning. These compounds act quicker than do the sulphonal group, and their effects pass off sooner also.

Urethane, introduced by Schmiedeberg in 1885, given in 5-grain doses, is chemically ethyl carbonate. This is also of the urea group, and this class includes hedonal, which is given in 10 to 30 grain doses. Urethane is a very safe and useful hypnotic and is very soluble, more so than the other members of this group; the taste is not unlike that of nitrate of potassium, and, like it, urethane is also a diuretic. It can be given to children, and is occasionally given before an operation to supplement the anæsthetic effects of chloroform. I have known it to produce calm and refreshing sleep with no unpleasant after-effects. It does not depress the respiratory or the circulatory system. It has the advantage over paraldehyde of being nearly tasteless. Its action as a pure hypnotic is quick and not too lasting, and the sleep induced is not too deep in character. Patients taking it wake up at slight noises, but quickly fall asleep again when interruption ceases, the sleep lasting from five to seven hours. Kraepelin and others agree that, apart from causing sleep, urethane has no power to relieve pain, only acting as a pure hypnotic. Where there is a tendency to excitement or to restlessness urethane is inferior to paraldehyde. It is most effective in cases where there is exhaustion or sleeplessness with a low state of nutrition, because the amide group gives the stimulation of the ammonia it contains. In the longer duration of its action as compared with paraldehyde it is, in my opinion, preferable to it. It seems to act directly upon the cerebrum and it does not give rise to disturbing effects upon the digestive tract. It is, as a rule, well borne by patients, and the sleep which it causes more resembles normal physiological sleep than that obtained after the use of any other hypnotic. I used it largely years ago.

Some of the coal-tar derivatives other than those already named—hypnone, for instance (which chemically is acetophenone), introduced by Dujardin-Beaumetz, given in 1 to 5 minim doses—have been used as hypnotics when freely diluted. Hypnone is only stable in oil or in alcohol, and the taste strongly resembles that of bitter almonds, and in some cases it has quite failed to give sleep.

Hypnal in 10-grain doses has also been used as a sedative and a hypnotic. It is a recrystallised mixture of chloral and antipyrin. Turpentine has been used for sleeplessness in some cases of hystero-epilepsy with striking benefit, and belladonna combined with the bromides, when other remedies have failed, has been of use in epilepsy and sleeplessness resulting therefrom.

Amylene hydrate, or tertiary amyl alcohol, introduced by von Mering in 1887, is a colourless liquid, of pungent taste and odour, resembling a mixture of paraldehyde and camphor; it has been freely used as a hypnotic before paraldehyde came into common use. It is a comparatively safe hypnotic, although it weakens the respiration. Its hypnotic effects are those midway between chloral and paraldehyde. It is quicker in its action than the latter and more transient in its effects. I used it largely some years ago in mental cases.

Luminal (one of the veronal group) by the mouth (3–5 grains) and luminal sodium subcutaneously have been used by one of my colleagues in Claybury to relieve sleeplessness associated with malignant disease of the upper jaw, and it has acted when other drugs have failed.

Mr. Langford Moore, the pharmacist to St. Bartholomew's Hospital, has kindly given me a list of the hypnotics and sedatives in most common use at that hospital, and in addition to opium, chloral, and the bromides they are paraldehyde, chloral amide, chloretone, urethane, pyramidon, sulphonal, and trional.

The chief aim in the relief of sleeplessness is to break the habit, and, as in other things, a slight change in the mode of life may do this. Dr. Johnson used to advocate change of air, and if this were not possible then a change of room, and if not this, then a change of bed! The hygiene of the bedroom must not be neglected, its temperature, the bed, bedding, and the pillow may all need attention. At times reading to sleep may soothe, at another hot drinks, and even a dose of peppermint water may send one to sleep when more specific remedies are demanded. Although much has been written about the real physiological cause of sleep, we are yet far from understanding it.

A CONTRIBUTION TO THE STUDY OF PELLAGRA IN ENGLAND.

BY GURTH S. BLANDY, M.D. EDIN.,
ASSISTANT MEDICAL OFFICER, MIDDLESEX COUNTY ASYLUM, NAPSBURY.

(With Illustrative Plates.)

IN connexion with a case of doubtful nature under my care, my chief, Dr. L. W. Rolleston, called my attention to a series of articles[1] dealing with the subject of pellagra as found in Great Britain. With his consent, I asked Dr. L. W. Sambon if he would care to see the patient. This the latter very kindly did, and expressed the opinion that she was suffering from pellagra of the typhoid type. Such a diagnosis, made by one whose opinion on the subject carries so much weight, caused me some concern, for I had a very clear recollection of a patient of mine (Case 7) who died last year in the asylum, and who presented an almost parallel condition.[2]

My attention having in this way been drawn to the subject, it was natural that I should discuss it with my colleagues and with the senior members of the nursing staff, and one name after another came to our minds of patients now deceased whose records I examined for evidence to confirm our recollections. The next move was to search the wards for any possible cases amongst the present population of the asylum. Having regard to the attention recently directed to this matter, and to its intrinsic importance, I feel sure that the results of my investigations will not be without interest. These results, I submit, tend to show that in all probability pellagra is not so rare a disease in England, or at any rate in English asylums, as has been supposed.

[Since writing the above I have had the opportunity of visiting Prestwich Asylum, Manchester, and thanks to the courtesy of Dr. J. L. Stephenson, I have seen the two very instructive cases of pellagra which are under his care. I also saw at Bethnal House Asylum on August 15th, 1913, a patient (again a woman) who is suffering from pellagra,

[1] Brit. Med. Jour., July 5th, 1913.

[2] These cases, with another which will be referred to later, are briefly mentioned by Dr. Sambon in an article (p. 12) in the *British Medical Journal* of July 19th, 1913.

and Dr. J. W. E. Cole kindly permits me to mention her case. Very striking is the symmetry of the skin lesions on the face, neck, and hands. This patient links up in my mind different cases I have seen. The dull brown dry appearance of the hands recalls Case 1 of my series, whereas the face approaches more to the type of the first Prestwich case and of my Case 10. Professor Sturli, of Trieste, who was present, supported the diagnosis with the weight of his wide experience of pellagra. It is of interest to note that this case came, as did some cases in my series, from the Middlesex County Asylum, Wandsworth, and that the patient had the disease while in that institution.]

I do not propose to attempt any lengthy clinical descriptions—opportunities for which will, I think, occur next spring—but rather, if it may be, to make good my case for the existence in this asylum of several cases during the eight years it has been open, and to suggest that it is at least likely that my experience may not differ greatly from that of others in large asylums, that the precise nature of certain cases may have escaped the attention of others besides myself. This would only mean, in connexion particularly with pellagra, that history was repeating itself. I will refer first to the case of the patient who was visited by Dr. Sambon as above mentioned.

CASE 1.—A. B., an unmarried girl engaged in housework, admitted from the Infirmary, Edmonton, on May 15th, 1913, aged 29, height 4 ft. 11 in., weight 7 st.

History.—Born at Holloway, was for two years at Stevenage (aged 10), next lived at Highgate, subsequently at Whetstone, at which place she suffered (her mother tells us) with pain in her eyes before rain fell, the pain passing off with the downpour. In 1907 she went to live at Palmer's Green, and her medical attendant there is said to have described her as an obstinate neurotic patient. The only other place she had visited was Newbury, Berks. In November, 1912, she had two teeth out, and has "never been right since." Her sister tells me, however, that she had not been well for 12 months. She complained, she says, of having numbness of her legs, which were "hot inside and had no feeling outside." She adds that two years ago there was a dryness of the backs of her hands, but that her face was not affected at all. She was not overworked, and had a comfortable home, but six years ago she was acutely depressed. No family history of insanity obtained.

State on admission.—Her general health was indifferent, but there was no evidence of any well-defined disorder. Her mental state was one of confusion, with excitement. She was restless, noisy, and incoherent; she had visual and auditory hallucinations—e.g., she heard the birds talking to her. There was a tendency to refuse food. She could give her name and age correctly, but was unable to say how long she had been in the hospital. She fancied that little children were being cut up near by. At this time the calls of nature were not neglected. The pupils were equal and reacted to light. No definite nystagmus was then or subsequently made out. The knee-jerks were brisk. At this time the urine was free from albumin, specific gravity 1025, reaction acid. The temperature chart is attached. (Fig. 12.)

Progress of case.—June 2nd: "Much quieter and looks better, but has lost weight since admission. Still spoon-fed and is very confused." 20th: "Her condition is unsatisfactory. She has had irregular fever (about 100° F.) for a few days and has a troublesome stomatitis." 25th: About this time I went on sick leave for a fortnight, but I am informed that a few days later an eruption appeared about the patient's mouth and at the muco-cutaneous junction of the nose, of a scabby and pustular nature on a reddish and inflammatory base. A few days later still a reddish cuff was noticed around the wrists "like the early stage of a bruise, as though someone had seized her by the wrists," then in patches (not noticed if symmetrical) on the back of the hands coalescing into one widespread dermatitis of the dorsal aspects of hands and fingers. The hands had not been noticed to be much swollen. July 9th: I saw her from this date until the time of her death. The rash on her hands had faded to a brownish tint, and at one point there was a tendency to pustulation. On the forehead and root of the nose were scattered patches of scabby roughness, not nearly so dark nor so well defined as on the hands, and showing no tendency to suppurate. She was gradually sinking into a "typhoid" state; the fever had subsided, but the pulse was rapid and very weak; the mouth was very sore; she was delirious, oblivious of the calls of nature, and her general condition was pitiable to witness. The peri-anal skin became denuded, and it was difficult to prevent the formation of bedsores, as the patient emaciated rapidly. On two occasions the medical officer on duty was sent for as she showed signs of collapse. It was at this point that Dr. Sambon first saw her, when she was in a state of muttering delirium with spasmodic muscular contractions, particularly of the face and hands. 15th: The urine examined on this date contained albumin. There was no active diarrhœa, but a tendency at times to constipation, at others to loose stools. At times the confusion was less marked, and she would speak intelligibly—e.g., she asked the nurse to give her "everything cold" and complained of thirst. 22nd: A fatal termination appeared inevitable some days ago, but the patient displayed great tenacity of life. Her general condition changed, the picture now being one of utter prostration—the breathing being easy and rapid, the pulse slower, the cheeks of a pink tinge. She could occasionally speak an intelligible word, and she recognised her mother on the 20th. The active muscular contractions almost ceased, the stomatitis improved, the pustular condition about the mouth cleared up, the eruption faded somewhat, though the thickening of the skin was most noticeable, like wrinkled parchment. Figs. 1 and 2 show the condition of the eruption about July 17th. A small patch of skin, yellowish-brown in colour and thickened, appeared symmetrically on the ulnar side of the elbows, but this is not brought out in the photograph, and the condition of the skin of the forehead is not well shown. The terminal phalanges were much less affected than the rest of the hand. No definite extensor response was obtained at any time. No notice was taken by the patient of the stimulus of a pin on the legs, but she felt and brushed away flies that settled on her face. Her condition did not now, or for some time previously, admit of exhaustive examination. 29th: She became gradually weaker and died to-day. 30th: A necropsy was made, at which I had the advantage of the kind assistance of Dr. S. A. Kinnier Wilson. The macroscopical findings were, as was expected, almost entirely of a negative character. There was no marked nephritis.

Dr. Wilson is engaged in a complete pathological investigation of the above case, the results of which will be subsequently reported. The patient was not out in the open at any time while in this hospital, but was on one occasion only under a verandah which was protected from the sun.

Dr. Sambon tells me that he has ascertained that there is a stream at Palmer's Green which is simulium-bearing, and that the deceased patient frequented its neighbourhood.

It will be observed that, though with the onset of the stomatitis some fever appeared, the disease in this case ran for the most part an afebrile course. Professor Tanzi speaks of pellagrous typhoid as being associated with fever varying from 102° to 107° F., and as occurring usually only in extremely inveterate cases of several years' duration; but he says also that some cases which do not reach the terminal or demented stage die in a state of acute delirium.[3]

CASE 2.—C. D., a married woman, admitted on Feb. 12th, 1912, aged 46. Duration of insanity eight to ten weeks; the only cause assigned was worry.

History.—Born at Totnes, Devon. She had a mental breakdown when aged 23, and was at Colney Hatch Asylum. She went to New Southgate in 1881, and to Wood Green in 1908, where she has since lived. Her husband never knew her to suffer from sunburn or roughness of the hands, but after she was taken ill she had "blood poisoning and was very bad." He noticed then that "her hands and legs were in a very bad state, hard lumps formed on the back of the hand, and the skin was very rough and appeared to irritate." There was no vertigo, but headache was present, which was only relieved when she wore glasses.

State on admission.—General health poor; slight cyanosis; temperature 97°, pulse 78. Height 5 ft. 3½ in.; weight 8 st. 4½ lb. Knee-jerks brisk; pupil reactions normal. Urine: specific gravity 1008; no albumin or sugar. She was acutely depressed, agitated, and resistive, would not converse, and was spoon-fed. It is very well remembered that her hands were at this time rough and the skin over the backs of the hands was thickened. She was in the habit of rubbing one hand with the other, and of picking her skin on different parts of her body.

August 5th: Figs. 3, 4, 5, and 6 represent the condition of the hands at this date, when she is in bed on account of a slight attack of diarrhœa. There is slight soreness of the lips and around the nostrils. On the front of the neck over the thyroid and left sterno-mastoid is a small patch of rough, thickened skin of a dull red colour, which shows a little branny desquamation. Very striking is the appearance of the backs of the hands and of the forearms. The distal limit of the eruption is on both sides just short of the first interphalangeal joint; the affected area is not of uniform appearance; in places the skin is a hard crust, shading into rough cracked patches which peel off leaving a raw surface, while on the forearm the condition suggests rather hide or parchment. On the front of the wrist, at the junction with the palm, and also at the upper limit of the eruption on the forearm, the margin is of a reddish colour, suggesting a more active inflammation. The palms, elbows, and feet are quite unaffected. Whenever the opportunity presents the patient picks at her hands, but she does not complain or give signs of any pain, her mental distress occupying her attention, as she fancies that she is very wicked and should be hanged. The urine now contains albumin and indoxyl.

This case also was seen by Dr. Sambon, who told me that the condition is a very good example of pellagrous dermatitis.

CASE 3.—E. F., a married woman, admitted on Jan. 8th, 1910, aged 37.

History.—Duration of insanity a few weeks. A history of insane heredity was obtained, and lactation and privation were offered as exciting causes. The patient developed delusions to the effect that she would be put in prison, became excited, and would have killed her baby had she not been prevented. She lived at Hornsey. No sunburn on the hands had been noticed by her friends prior to admission, and she had not complained of vertigo.

State on admission.—The patient's general health was indifferent. Temperature, 98·4° F.; pulse, 114; respirations, 26. Urine: specific gravity 1028, albumin present, no sugar; height, 4 ft. 10 in.; weight,

[3] Vide A Text-book of Mental Diseases, by Professor Eugenio Tanzi, chap. x.

DESCRIPTION OF ILLUSTRATIONS.

FIG. 1.—Illustrates the pustular condition about the mouth and nose, and the non-pustular eruption on the dorsum of the hands in Case 1.

FIG. 2.—The anterior aspects of the wrists in Case 1.

FIGS. 3 and 4.—The back of the hands in Case 2.

FIG. 5.—Shows the comparatively uncommon extension of the eruption up the forearm, also Case 2.

FIG. 6.—The patch on the radial side of the anterior aspect of the wrist, also Case 2.

FIG. 7.—The neck and hands in Case 3.

FIG. 8.—The neck, also Case 3.

FIG. 9.—The fading V-shaped patch on the radial side of the wrist, also Case 3.

FIG. 10.—The back of the hands in Case 9.

FIG. 11.—The front of the wrist in Case 9.

6 st. 4 lb. Her mental condition would, I think, be described variously as stuporose melancholia, or by some as a form of primary dementia, and this has not changed materially since admission. She is silent, unoccupied, apathetic, has a rather fixed expression suggesting depression, and probably has auditory hallucinations, for she will at times smile or cry for no apparent reason. The charge nurse, having been told about pellagra, called my attention to her hands, which I found to be desquamating in strikingly symmetrical areas, and when the hair was raised from her ears symmetrical patches of a similar nature were found, as seen in Figs. 7 and 8. The dorsum of the hands and a V-shaped area on the front of the wrist on the radial side showed a reddish-brown roughness, the distal limit being half-way up the proximal phalanges, the upper limit some two inches above the bend of the wrists. The oval patches on the neck were desquamating in larger flakes.

The photograph in this case was taken only just in time, for a week later the condition could only be discerned on close inspection.

This patient is now heavier than she was on admission (7 st. 2 lb.), and she has no confirmatory symptoms at present. Dr. Sambon refers to this patient as a pellagrin.[4]

In the case records of the asylum I found notes on the following case, extracts from which I give.

CASE 4.—G. H., male, aged 25, transferred from Wandsworth Asylum on June 7th, 1905. In 1901 he was at Banstead Asylum.

History.—There was a marked alcoholic family history. I infer that he was a case of primary dementia very far advanced.

May 28th, 1910: "Is under observation for suspected scabies." May 16th, 1912: "Slight fever with mild attack of diarrhœa. He has developed extensive sunburning on dorsal aspects of both hands." June 28th: "Has large blisters on both hands, probably sunburnt." July 19th: "Had a syncopal attack last night. Suffers much from sunburning." July 31st: Died quite suddenly.

The post-mortem notes of the above case refer to the blistering of the dorsal aspects of both hands, and pulmonary tuberculosis was found and given as the cause of death. The charge attendant tells me that he remembers the skin coming off "like a scald."

From the asylum records also I quote notes on the following case:—

CASE 5.—I. J., female, unmarried, who when admitted from Wandsworth Asylum on Nov. 28th, 1905, was aged 30.

History.—Only a very scanty history could be obtained.

State on admission.—She was a noisy, violent, destructive, chronic maniac. Urine: Specific gravity 1014, no albumin or sugar.

July 27th, 1910: "The patient has an eruption like ringworm in patches on the neck and hands, and there is considerable ulceration of the mouth." 29th: "Symptoms more marked. Extensive ulceration of mouth, foul discharge, temperature 102·8° F. Restless and excited, swallows with difficulty." 31st: "The patient has had an attack of diarrhœa. Temperature 99°." August 5th: "Gangrene of the lung supervened and the patient died to-day."

The post-mortem notes of the above case refer to small patches of congestion of the mucous membrane of the intestine, and no longer speak of the dermatitis as tinea but as a marginal eczema.

I remember going to see this patient shortly before she died, and my recollections of her, and those of others who saw her frequently, leave me in no doubt that she was a very severe case, similar to Case 1 in many respects. The resemblance to sunburn was remarked in this instance.

When the question of pellagra was raised the following case was at once thought of, and I give brief extracts of the notes.

CASE 6.—K. L., female, admitted Sept. 8th, 1905, aged 20. There was a family history of suicide and epilepsy and the mental state was one of idiocy.

June 13th, 1907: "Very indifferent health, at times she gives evidence of intestinal trouble." Jan. 20th, 1908: "Looking better but has lost 1 st. 2 lb. in last six months. May 7th: "Scabies." August 7th: "Scabies recovered." April, 1909: "Is under treatment for small ulcers, result of blistering of her feet." Nov. 21st: "Is suffering from attack of diarrhœa, with slight constitutional symptoms;" Feb. 28th, 1910: "Is subject to returns of diarrhœa." July 27th: "She has now got an attack suggesting tinea circinata—her skin is constantly a source of trouble." 29th: "She has developed an ulceration of gums with 'foul discharge.'"

It is quite clear that this patient was profoundly ill at this time, for the staff remember her well, and it was not expected that she would recover as she did. The eruption was on the back of the neck and on the hands and arms, but no written note was made of its situation. The similarity to sunburn was also remarked in this case. This patient had prolapse of the rectum. I should not have thought of recording this fact, but that Dr. Sambon showed me some notes which had been sent to him relating to a private case, and I noticed that this patient had suffered from the same condition. The matter could not be further pursued as the patient accidentally choked herself and died on Oct. 3rd.

[*Note.*—A troublesome outbreak of scabies occurred in the asylum, and all suspicious skin conditions tended to be included under this heading. It is not unlikely that the entries of May 7th and August 7th in this case concealed a pellagrous eruption as a complication.]

CASE 7.—M. N., female. When admitted on Dec. 31st she was 37 years of age.

History.—Maternal epilepsy was known to exist. The patient's insanity dated from the age of 17. The mental condition was one of manic-depressive insanity, in which the excited phase predominated and to which an element of confusion was added when she became seriously ill. The patient's sister informs me that she had lived at various times in North London, Devonshire, Yorkshire, Frinton, and Gloucestershire, but chiefly in London, and goes on to say that she remembers having noticed the sunburn on the patient's hands at Napsbury for "three distinct years" before her death, adding that previously "at the seaside she would only sunburn in the ordinary way, and that it would not last long or peel," and that in the hot weather the patient would occasionally complain of giddiness.

FIG. 12.

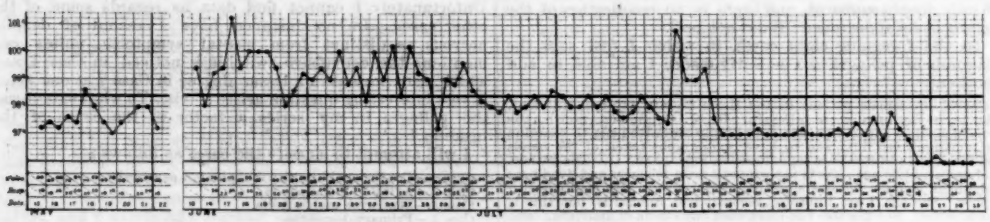


Chart of Case 1, giving temperature and pulse-rate.

State on admission.—Knee-jerks brisk. Pupil reactions normal. Urine: specific gravity 1010, acid, no albumin or sugar. Weight 8 st.

The patient was under my own care and I remember her very well. Her mental disease followed the usual course, and the attacks of excitement became more and more frequent and were always ushered in by præcordial distress, emotionalism, and various apparently neurasthenic symptoms. In 1909 appeared the first unusual symptoms. The matron of Tooting Bec Asylum, who was here at the time, tells me she remembers well that the patient was very much sunburnt in the summer of this year and that the backs of her hands became rough. In September, 1909, it is noted that she has had diarrhœa and has become worse mentally, there being much confusion.

September, 1910: "Her physical condition has suffered greatly of late. She has had stomatitis and diarrhœa." June 15th, 1911: "Is now recovering from a severe but brief attack of excitement. She has again suffered from ulceration of the mouth."

Subsequent notes show that the patient's health gradually failed. From Feb. 3rd to 20th, 1912, she was confined to bed, having had a very obstinate form of diarrhœa without blood or mucus, but of a peculiarly offensive character. It followed on a state of exhaustion after prolonged and intense excitement; apparently causeless vomiting complicated her condition, which was now very grave. While the diarrhœa continued the mental condition was better, but with its cessation the latter became worse again. August 19th: In bed; more small, loose stools. Oct. 19th: "Her condition has occasioned grave anxiety. The diarrhœa ceased, but she became weak, emaciated, very irritable, and difficult to nurse. *A troublesome dermatitis of the hands is only now beginning to clear up.*"

I should mention here that the notes of this case, as of others quoted, are partly statutory, and are not to be considered as a clinical report on the case such as might be expected in a general hospital; thus it is necessary to supplement them from memory.

The patient used to run about in the garden without a hat and became much burnt. The "sunburn," however, to our surprise, did not fade in the usual manner, and I was forced to the conclusion that it had been the starting point for a dermatitis associated with her

[4] Brit. Med. Jour., August 9th, 1913.

generally impaired health. Both hands became infected, pus burrowing under the thickened skin, until finally as this was shed a raw surface remained. We supposed the infection had been by the patient herself from a focus around the nose and mouth, which had an appearance almost identical with that seen in Case 1, Fig. 1.

Nov. 1st, 1912: "She is in a most unhealthy state, nourishment is not absorbed it would seem. There is now albuminuria, and the temperature is subnormal and the patient becomes increasingly more feeble." 17th: "A week ago she gave some indications of improvement, but she became worse again and died this morning."

At the post-mortem examination of the above patien very marked chronic nephritis, some pulmonary infarcts, and and a small, evidently terminal, empyema were found.

CASE 8.—O. P., a widow, aged 74, admitted on April 1st, 1912, from the Edmonton Infirmary.

History.—Very scanty. She had had a previous attack at the age of 37 lasting eight months. Duration of present attack three months. She had some sort of "fit" in January, 1912.

State on admission.—General health feeble, there being evidence of cardio-vascular degeneration. Temperature 97·4° F., pulse 98, respirations 22. Mentally she was confused, restless, incoherent, irrational, and disoriented.

April 16th: "Syncopal attack." May 23rd: "Excitement is less marked, she had another syncopal attack." June 10th: "She recently sustained a burn on either hand as the result of the action of the sun. These heal very slowly as she will not keep on her dressings." 20th: "Is steadily losing ground physically and is more demented." July 2nd: "She rallied from another syncopal attack, but a day or so after her lungs became involved and she died to-day."

Post-mortem notes.—Extreme cardio-vascular degeneration, chronic nephritis, and bronchial catarrh.

We can well recall that the distribution of the so-called "sunburn" was on the dorsum of hands, including the fingers, and on the front of the wrists, closely resembling Cases 1 and 7 in appearance. The area on the back of the hands became infected, and the skin peeled off, leaving a raw surface like that of a dirty burn. The face appeared to be only deeply sunburnt, and there is no recollection of the details of its appearance; it did not peel.

To the foregoing eight cases, in which I feel sure the diagnosis of pellagra can be fairly made, I am able to add another.

CASE 9.—A female patient in the Herts County Asylum, Hill End, who is, in my opinion, a pellagrin. Dr. J. Grimmond Smith, the deputy medical superintendent, very kindly permitted me to examine her on August 6th, 1913, and to have photographs taken of the hands and forearms, and these are reproduced in Figs. 10 and 11. The patient is of early middle age; she is the wife of a farm labourer and lived near Aldenham, Herts. She was admitted in May, 1912. Her bodily health is poor. She has, I am informed, recently had stomatitis, but this is much better. She has also had more than one attack of diarrhœa. She is in a state of mental confusion, is restless, depressed, has hallucinations of hearing, and requires tube-feeding. The eruption on the hands has the same distribution as in Case 2, but is less extensive, and the skin is not so indurated. The face, neck, and elbows are free from signs of the disease.

We have under observation at Napsbury several doubtful cases, and I was also shown a patient at Hill End Asylum, who was, I think, a slight case, but I propose only to refer to those already mentioned.

It is no part of my object to attempt to review the main features of this puzzling disease, if for no other reason than that has so recently been done by Dr. C. R. Box.[5] It may, however, be useful to discuss briefly some of the points which arise from the consideration of the foregoing cases:—

Sex.—Of nine cases all but one occurred in females. This preponderance amongst women accords with the prevailing opinion in America,[6] but I believe on the Continent a different view is held. Only the male patients at Napsbury are agricultural workers. I have been unable as yet to find one living undoubted pellagrin amongst them.

Age.—With the exception of Case 8 (aged 74), at the time when the disease was manifest, all were in early middle life (20–40 years).

Social condition and residence.—Case 7 was a private patient, and though in Case 3 privation was mentioned by the husband, generally speaking none of the patients could be said to be destitute, and they did not come from the lowest grades of society. In some instances the patients had lived so long in the asylum that their social condition was really that of the institution. So far as I can ascertain, none of these patients had ever lived abroad. When I have been sure of their various places of residence these are given, but it may be said that the patients were all Middlesex cases.

Diet.—The asylum dietary is liberal, and so far as I am aware no maize products, unless it be cornflour, are comprised within it. This fact, and the good hygienic conditions that obtain at Napsbury, militate against the deprivation theory as far as the asylum is concerned.

Type.—A very striking feature of the cases described in this article is their severity. It will be recalled that the earlier American cases are said to have been of a very grave type, more so than is now the rule. A fatal issue in Case 8 would have caused little surprise had there been no pellagra. Case 4 had, it is true, tuberculous lesions, but in Cases 1, 5, and 7 the unfortunate termination must be attributed primarily to the pellagra. Case 6 made a recovery that was quite unexpected, though it is possible that the choking which caused the patient's death not long after may have been associated with the well-recognised tendency to collapse in this disease. Case 3 is the only one of the series which is quite slight, and but for the extraordinary symmetry of the eruption would not have been included in this category.

Symptoms.—I have not attempted to diagnose pellagra unless some skin lesion was certainly noted, though I am tempted to describe one case, now dead, the features of which strongly suggested to my mind the "pellagra *sine* pellagra" described by several authors. In asylums, as is well known, dirty mouths and slight gastro-intestinal disorders are not uncommon, but in these cases the stomatitis has been of such an unusual character as to call for special mention in the notes, and the same applies to the diarrhœa, which has been free, however, from any of the more alarming features of so-called asylum diarrhœa. Albuminuria appeared in the late stage of the illness in Cases 1 and 7, was present on admission in Case 3, and is now present in Case 2; there was a trace at one time in Case 4. Unfortunately I cannot find data as regards some of the other cases. In no instance have I record of definite nervous as distinct from mental symptoms, unless one mentions the convulsive twitchings noticed in Case 1 and which were present in a lesser degree in Case 7 at one time. A very interesting question arises:—viz., To what extent was the pellagra in my series a factor in the cause of the insanity?

I will attempt to classify the cases as follows:—

Case 1.—Confusional insanity (exhaustion psychosis).
Case 2.—Agitated melancholia.
Case 3.—Stuporose melancholia.
Case 4.—Primary dementia.
Case 5.—Chronic mania, to which was added the features of an exhaustion psychosis, when she became seriously ill.
Case 6.—Idiocy.
Case 7.—Manic-depressive insanity with later confusional symptoms.
Case 8.—Confusional insanity.
Case 9.—I do not know what view Dr. Smith takes of this case, but it appeared to me to be a case of confusional insanity.

As it is stated that pellagra may exist in a quiescent or unnoticed state for years, one cannot come to any definite conclusion as to the question of *post* or *propter hoc*, but except in Cases 1 and 9, and possibly Case 2, I find a great difficulty in believing that the insanity was not quite independent of any pellagrous factor. The duration of the mental disease in Cases 4, 5, 6, and 7, the hereditary taint in several, and the other sufficient factors in Case 8, all support this view, and in Case 2 there had been a previous attack 20 years ago.

Seasonal incidence.—It would be strange if the following approximate dates could be explained by coincidence:—

Case 1.—Admitted May 15th; died July 29th.
Case 2.—Here the eruption appears to have been first noticed in the winter, and to have reached a maximum in July.
Case 3.—Eruption only noted in July; fading in early August.
Case 4.—Severe symptoms noted May 16th; patient died July 31st.
Case 5.—Acute illness July 27th; patient died August 5th.
Case 6.—Acute illness July 27th.
Case 7.—Last illness February to October.
Case 8.—Sunburn noted early in June; patient died July 2nd.
Case 9.—Admitted May; eruption peeling early in August.

Time and mode of origin.—Except that in Case 2 we have the husband's history of the roughness of the hands before admission, there are no facts, so far as I am aware, which are inconsistent with Cases 1 to 8 having contracted the disease while here at Napsbury, but if such were the case the incubation period in Case 1 must have been exceedingly short, and the mental disease due to some other cause.

As regards the distribution of the cases in the hospital, Cases 5 and 6 occurred at the same time, and were in contact with one another. Case 4 was isolated by his sex and mental state. The three patients were in the same block. Case 7 would appear to have contracted the disease not later than 1909, and Case 8 came in contact in the same ward with

[5] Vide Practitioner, June, 1913.
[6] Vide Pellagra, by E. J. Wood, p. 122.

Case 7 in 1912. Case 3 was also associated with Case 7 and with Case 2. Case 1 occupied a bed in the ward where Cases 7 and 8 had died in the previous year. All these patients, however, were in the hospital block and separated from Cases 4, 5, and 6.

My short acquaintance with this disease cannot permit me to offer any opinion as to its mode of origin. It is difficult not to be carried away by the enthusiasm of Dr. Sambon for his very attractive simulium theory, which he supports with so many interesting and impressive facts. While, however, it is comparatively easy to associate the life-history of any individual patient in this country, when means of transit are so plentiful, with some or other river, it is almost impossible to find a case that can at no time have been in the near neighbourhood of a simulium-bearing stream. In this connexion I may mention that Case 9 (the Hill End Asylum patient) comes from a village but a short distance from the continuation of the stream (river Colne) that a few miles higher up bounds the Napsbury estate. The mean distance from the river to the asylum, as the crow, or the simulium, might fly may be taken at about 700 yards. Mr. Amoruso, on behalf of Dr. Sambon, searched the river near the asylum on August 14th. He found larvæ and pupæ of simulidæ, but was unable to capture any fly on this occasion.

One further fact I must mention for what it is worth: Dr. Sambon told me recently that an Italian peasant once said to him, "Our pigs have got this disease which you are investigating." Until recently there was a herd of pigs at Napsbury, and recollecting this story I asked the farm bailiff what skin diseases his pigs used to have. He volunteered the information that a small percentage of them had had skin affections associated with soreness about the mouth, that this complaint appeared mostly in the spring, and that he had not met with it before he came to Napsbury, but had heard of it as occurring elsewhere, but more so in institutions than in rural districts generally.

This paper has been hurriedly put together, but with the object indicated in the earlier paragraphs. I had scarcely finished it when my colleague, Dr. A. O'Neill, called my attention to two more cases in this asylum, one of particular interest, and I will briefly mention these.

CASE 10.—Female, single, admitted June, 1912, from the Edmonton district, aged 39. First attack, duration five days. Cause unknown, no neuropathic history. Temperature 97·6°F., pulse 88, respiration 22, height 5 ft. 5 in., weight 7 st. 1 lb. Urine: specific gravity 1026, acid, albumin present, no sugar.

State on admission.—The patient was resistive, impulsively violent, noisy, incoherent, and was spoon-fed; her memory and attention were much impaired. At times there was tachycardia.

Progress.—The patient became steadily worse mentally, developed a voracious appetite, stole the food of others, and lost all sense of decency and self-respect.

April 15th, 1913: "A sore place, the size of a shilling, has appeared on the right arm; it looks as if she had burnt herself on the fire-guard." 24th: "She has a blister with surrounding inflammation on the first finger of right hand; cause unknown." August 13th: On the back of the neck, partly hidden by the collar, is an area of skin some six inches vertically by three inches horizontally, looking just as though it had been recently burnt, and a good deal of desquamation has evidently taken place. Just above the outer angle of the eyebrow on both sides a small rough patch of skin, not red but desquamating, is to be observed. The hands looked slightly swollen, and have a much more raw appearance than any other case I have seen (except Dr. Stephenson's first case—Prestwich). The fingers of the right hand are red and swollen, but only the back of the hands and of the proximal phalanges of the first and second fingers of the left hand are desquamating. The elbows are unaffected. A V-shaped patch appears symmetrically on the radial side of the anterior aspects of the forearms. Salivation is profuse, but the patient violently resists any examination of her mouth. There is no history of diarrhœa; the knee-jerks are brisk.

Clinically this case is remarkable for the rapidity with which the most profound mental degradation has developed.

CASE 11.—Female, married, admitted June 21st, 1912, from the Middlesex County Asylum at Wandsworth, aged 52.

History.—There is a history of insane heredity. She became insane 21 years ago.

State on admission.—The patient is much deformed (kyphosis), but appears to be in good health; there is, however, a trace of albumin in the urine. Her nurse tells me that she has recently had sore lips. There is pyorrhœa, but no definite stomatitis, nor is she known to have had any diarrhœa. The skin of the backs of the hands is rough, wrinkled, and thickened, and there is a little branny desquamation. The forearm is involved on the left side.

The case is quite a mild one, but I think there is no doubt of the diagnosis. Mentally she may be classed under the heading of chronic mania.

Each day, I am told, brings to light fresh cases in different parts of England. It is not difficult to imagine the possibilities to which their appreciation may lead. Should the hopes that I imply be fulfilled in the future, psychiatry in this country will owe much, it seems to me, to Dr. Sambon, to whose papers in 1912 and 1913, and to whose energetic pioneer work, the general recognition of this disease in Great Britain will be so largely due.

I wish, in conclusion, to thank Dr. Rolleston for his permission to publish these cases, and my colleagues for much kindly assistance.

I am indebted to Mr. Chas. G. Rolliston, of Napsbury, for the photographs which illustrate this article.

Napsbury.

NOTES OF A CASE OF PELLAGRA.

BY J. W. E. COLE, M.A., M.B., B.C.CAMB., M.R.C.S.ENG., L.R.C.P. LOND., D.P.H. R.C.P.S. LOND.,
ASSISTANT MEDICAL OFFICER OF BETHNALL HOUSE ASYLUM.

I HAVE the kind permission of Dr. J. K. Will, medical superintendent of Bethnall House Asylum, to communicate the following notes of a case of pellagra.

A woman, aged 25, was transferred here on July 3rd. Three days after admission a shiny redness appeared on the bridge of the nose and rapidly spread over the malar regions, forehead, and around the mouth, extending about 1½ inches down the chin. I saw her on July 21st. The rash on the face was then covered with dry, yellowish-brown, scaling epidermis. This scaling surface had a clearly defined rosy-red margin. It was strikingly symmetrical in its distribution over the areas mentioned above. The conjunctivæ were healthy and the eyelids themselves were unaffected. There were one or two small islands of healthy skin on the forehead. It extended right up to, but did not encroach upon, the scalp. There was no œdema. There was a small patch on the lobe of the left ear; the right ear was unaffected. On the right side of the neck was a patch 1 inch wide, extending 3 inches round the neck; on the left side of the neck was an irregular patch extending up the neck rather than around it. The remaining skin on the face and neck was deeply and evenly pigmented, but whether more so than she would normally exhibit I cannot say. On August 8th she was placed in bed in a comparatively dark corner of the ward. By the 11th the desquamation was practically complete. The reddened edges were still well marked, and a few adherent flakes gave a powdery appearance to the affected site. On the 12th she again went into the open air, and now, August 17th, the whole of the area is again assuming a shiny red appearance. Had I not read the recent articles on pellagra I should have made a diagnosis of severe sunburn, vaguely attributing the fact that she became so affected when others escaped to some inherent peculiarity.

Coincidently with the facial symptoms parts of the hands became deeply stained to a purplish brown. The affected area is continuous and contains no healthy patches. It covers roughly the backs of the hands and fingers and by a band one inch broad the entire area of the wrist. The ends of the fingers from the roots of the nails are entirely free. There is a distinct limiting line along the ulnar edge of the hand and fourth finger. It is definitely limited by the lines of contact of the fingers when extended. The limit on the radial edge of the first finger is not so definite, but when the thumb is adducted against the radial edge of the palm there is a definite line on the back of the hand where it comes in contact with the thumb. The back of the thumb is affected in the same way as the fingers. On the wrist band the pigmentation is less deep, and its upper edge fades off into the normal skin of the arm.

Desquamation has been less rapid on the hands than on the face. A striking feature is the fact that the fine crossing lines of the skin stand out as a glistening network on the pigmented area. Round the wrist there is a tendency for desquamation to occur in patches, causing islands of healthy skin to appear surrounded by a frayed edge of dry epidermis. The skin feels very coarse, harsh, and dry. She occasionally rubs her peeling hands, but neither on the face nor hands has the eruption appeared to be very irritable. Although the palms were unpigmented, desquamation is appearing along the palmar folds. Very slight redness occurred on the lower surface of the elbow, but definite desquamation is now present. Throughout there has been a goose-flesh condition of the skin of the legs, but the skin of the feet and of the rest of the body has been normal. The nipples are very

deeply pigmented. On admission the tongue was furred and the breath was foul. Apart from this there has been no affection whatever of the mouth.

Since admission she has had diarrhœa; the stools have been liquid but not frequent. Occasionally they contained streaks of blood and often undigested food. The pupils are equal and react normally. The knee-jerks are exaggerated. The plantar reflex is very active and flexor in character. The abdominal skin reflex is active. No indication of anæsthesia or hyperæsthesia is obtainable. The heart is irregular in its action. Mentally she is in a condition resembling katatoniac stupor. She lies, sits, or stands wherever she is placed. She cannot be got to answer a simple question, although she evidently understands what is said and can observe what is going on around her. Occasionally she indulges in a slight smile of amusement. She exhibits negativism and tendency to flexibilitas cerea. She has to be dressed, undressed, washed, &c. She is wet and dirty.

I have been able to obtain but a scanty history. The only relative available is a sister who was not living at home when the patient first was taken to an asylum. Her childhood was passed at Chertsey-on-Thames, Shepperton, and Shefford (Beds.). She then went into service at Forest Hill for a short time, left her situation, and went to live with a relative at Stony Stratford. From here, after a very short interval, she was taken to Stone Asylum, aged about 19. The medical superintendent has informed me that here she had an attack of mania, but exhibited no symptoms or signs of pellagra. She was out of an asylum for only a short interval before recertification. An elder sister is stated to have developed fits when about 20. She died about five years ago in Hanwell Asylum after three years' residence. She is stated to have suffered from diarrhœa before and after admission. My informant has no recollection of the patient ever having had sunburn, eczema, or any skin trouble, but describes her as having been a stout girl (she is now very thin) with a bright (red) complexion.

On August 11th Dr. L. W. Sambon, accompanied by Dr. Sturli of Trieste, very kindly visited the patient, and both agreed with the diagnosis of pellagra.

THE EFFECTS OF THE DUCTLESS GLANDS UPON DEVELOPMENT.[1]

BY HASTINGS GILFORD, F.R.C.S. ENG.

DESPITE the immense amount of work which is now being done upon the ductless glands we still have to go to clinical and pathological evidence as the basis of our knowledge. Experiment can so far only teach us what to expect when a gland is defective: the whole of our information upon the results of excessive action comes from pathology. As to the direct investigation of the normal gland, research has not yet provided data sufficiently reliable to enable us to arrive at satisfactory conclusions. These two kinds of research, the experimental and the pathological, tend to run along lines which are either parallel or divergent, but can seldom be brought to a focus. Those who approach the subject from the laboratory side tend to lose themselves in the mazes of abstract science; those from the hospital side tend to come prematurely to conclusions which are not scientific. If we are to be practical we must go to pathology for most of our information. The normal action of these glands is so delicate, so complex, and so abstruse that we can best judge of what happens in health by drawing inferences from that which takes place when their action is magnified or diminished by disease. I feel, therefore, that I need make no apology for dealing with my subject mainly from its pathological aspects, leaving the experimental and physiological sides to those who are so much more competent. I trust that we shall have each aspect touched upon, for Cushing and his school have shown how much may be accomplished by combining clinical, operative, and pathological study in the same research.

The subject we have to deal with is that of the inhibition or reinforcement of such correlations of the body as are carried on through the medium of chemical secretions or hormones. Probably the first series of correlations is set going by the mere mechanical penetration of the germ cell by the sperm element. At any rate, it has been shown by Bataillon that the unfertilised eggs of a frog may be started on a career apparently in no way different from that of normal fertilisation by means of needle puncture alone. Correlations once set going for a time continue automatically, as in plants, apparently without the stimulus of any specialised secretion. In whatever way correlations are regulated before the development of the ductless glands it is highly probable that these same methods continue in force to a varying extent even after a more perfect mechanism of adjustment has been completed. Indeed, we see that throughout life there must be some faculty of adjustment apart from those initiated from the nervous system and from the ductless glands, for how otherwise can we account for purely local correlations? We have only to notice what happens when part of a long bone is destroyed in infancy to be convinced that organs and tissues may accommodate themselves to emergencies without the intervention of a central controlling mechanism. So also is it difficult to understand the adjustments which take place in achondroplasia, in rickets, and even in microcephaly unless we fall back upon some explanation which leaves out the ductless glands. We suppose, therefore, that though the ductless glands are of great importance they are only a part of the machinery of adjustment.

In considering the problem of the disorders of these organs and the light they throw upon their normal action we are immensely aided by the advanced state of our knowledge of the thyroid gland. This furnishes us with the warning that we must not be too exacting in our demands. It shows that the inaction of a gland at one stage of development may produce results which superficially differ from those in another stage of development, and that those due to defective action are by no means always contrary to those due to excessive action. Thus the infantilism, dwarfism, and sexual stagnation of cretinism cannot be contrasted with any premature senile decay, gigantism, or sexual exaltation in Graves's disease. Neither is there any orbital change in cretinism opposed to the bulging eyes of Graves's disease. It seems clear that the part allotted to the thyroid in the complex working of the ductless gland system is to stimulate the metabolism of the whole body. A gland in certain respects in inhibitory relations with the thyroid gland is the thymus, which we regard as a lymphoid structure and part of the *lymphatic system*. There is a striking contrast between the human being in infancy and childhood, when lymph tissue is at its highest development, and the condition met with in Graves's disease. This contrast is accentuated in lymphatism, where the special type qualities of the infant are magnified. Destruction of large tracts of the lymphatic system by degeneration, as in Hodgkin's disease, gives rise to a syndrome in which extreme emaciation and debility and katabolic excess may be contrasted with the stolid fatness of lymphatism and with its pallor and increased muscular growth.

Though Berthold's experiments in 1849 seem clearly to indicate that the primary *sex glands* act upon development by means of a secretion, it cannot even now be said that the evidence is convincing, in spite of the facts which have been accumulated since Berthold's days. Extracts from these glands fail to produce definite results, and the occasional occurrence of opposite sex characters in pseudohermaphroditism are very difficult to explain by any theory of hormones. The fact that correlations take place between somatic and sex characters in plants without hormones shows that hormones are not essential. The secretion theory, moreover, will hardly account for the extraordinary improvement which results from the removal of the ovaries in osteomalacia, for most careful examination of the ovaries has failed to reveal evidence of the correlation being due in any way to alterations in ovarian structure.

Research on the physiology and pathology of the *pituitary gland* has of late received an impetus from the work of Hochenegg, Cushing, and other operative surgeons. This work tends, on the whole, to support the opinion, first advanced by Tambourini, that acromegaly is due to overaction of the anterior lobe in the first place followed by degeneration and underaction. Yet it must be confessed that it is not easy to reconcile some of the cases with this view. Thus it is difficult to understand how an adenoma or a malignant growth, as in Hochenegg's case, deficient in

[1] Abstract of a paper read in the Section of Diseases of Children at the International Congress of Medicine on August 9th, 1913.

chromophile cells, can give rise to pituitary overaction. Yet that in his instance the state of the gland was the source of the acromegaly was apparently proved by the rapidity with which the acromegalic changes disappeared after the operation. Then, again, if acromegaly is indeed primarily the result of hyperplasia, why are the initial symptoms so often largely of the kind we attribute to hypoplasia, as in Professor Schloffer's case? I know that such cases are accounted for by supposing that the pressure of the enlarged hypophysis shuts off its own secretion. But why, then, do the much larger and more rapid growths termed malignant give rise to the most characteristic and pronounced form of acromegaly? If lesser degrees of pressure interfere with the issue of hormones, why are greater degrees of pressure not so obstructive?

Then, questions arising out of Froehlich's infantilism are by no means settled. The well-known experiments of Aschner, Handelsmann, and Horsley tend to show that hypopituitarism gives rise to no morbid effects, whereas Biedl, as well as Cushing and his assistants, seem to prove pretty conclusively that hypopituitarism leads to conspicuous delay of development of the sex organs, to obesity, to psychical disturbance, to general infantilism, and to other symptoms which we associate with Froehlich's infantilism. So far the preponderance of evidence seems to be with Cushing and Biedl, who, moreover, bring to their support a wealth of important clinical and operative details. At the same time there are cases on record resembling those described by Froehlich which from their duration and from absence of direct pituitary symptoms are probably not of pituitary origin. These seem to show that hypopituitarism, though a highly important cause, is only one of the causes of infantilism with obesity, and that to constitute Froehlich's infantilism it is necessary that there should be direct and definite evidence of a pituitary tumour or of a dwarfed sella turcica. Among the disorders attributed to defective action of the hypophysis are ateleiosis and progeria.

Ateleiosis is an essential infantilism of Brissaud's type. It has a striking individuality, and is clearly to be distinguished from myxœdème fruste. It is not amenable to treatment by thyroid extract, sometimes occurs in two or more members of the same family, but not in association with cretinism or myxœdema. There are two forms: the asexual, in which none of the primary or secondary sex characters is developed; and the sexual, in which, usually after some delay, the sex organs develop, so that in some cases these ateleiotics have borne children. I have myself described one such case in which the intimate relation between these two forms of ateleiosis was proved by the fact that the father was of the sexual variety and the son of the asexual. In a case of ateleiosis fully described by Arnold Paltauf there was a tumour of the pituitary body. On the other hand, in Schaaffhausen's case, in a skeleton in the Royal College of Surgeons of Edinburgh, in another skeleton in the Royal College of Surgeons in London, and in a case upon which I myself made a post-mortem examination, there were no gross evidences of pituitary tumour or insufficiency.

In *progeria* there is still more reason to suspect the influence of hypopituitarism. It has been noticed that most of the characters of progeria are the antitheses of those which appear in acromegaly. This comparison has been insisted upon by Professor A. Keith, who in the course of a study of a skeleton from a case of this disease [2] showed that in almost every particular the changes were contrary to those of acromegaly. It is hardly possible to read his paper without being convinced that the one disease is opposed to the other. In only one point was the evidence at fault; the sella turcica showed no indication of there having been any tumour or deficiency of the hypophysis. On the other hand, M. Variot and M. Pironneau, who have described a case, believe from the clinical symptoms that progeria is a manifestation of suprarenal inadequacy.

The glands most closely concerned with the pituitary are apparently the sex organs. Indeed, as we well know, it is the opinion of Freund that acromegaly is started by changes in the ovaries or testes leading to secondary enlargement of the hypophysis. In Froehlich's disease there is conspicuous sexual defect, so also as a matter of fact is there in acromegaly, not only as the condition advances, but, indeed, often throughout the course of the disease. Possibly there is danger of attaching too much importance to this symptom, seeing that sterility is a common feature of so many chronic or incapacitating diseases. Generally speaking, serious decline in the vigour of any important organ tends to produce not only individual but racial death. Thus the various forms of chronic mental disease, obesity, diabetes, pernicious anæmia, leukæmia, achondroplasia, as well as many other disorders, are apt to be associated with hypoplasia or degeneration of the sex organs. It is therefore not improbable that the sterility of acromegaly and of pituitary obesity is no more than the expression of a common biological law. This law is apparently in operation in all the disorders affecting the ductless glands—suprarenal, lymphatic, pancreatic, thyroid, sex—and is shown not only in those cases in which there is genital hypoplasia but also hyperplasia, for even where there is sexual precocity or overgrowth it is not associated with an increased fecundity, but the reverse. This sterility seems to be the expression of a generalisation well known in genetics where all useless extremes or mutations, whether on the side of excess or of defect, bring with them the means of their own automatic extinction.

In the *suprarenal system* we meet with another example of a double organ with attendant satellites, and this fact more than doubles the difficulties of coming to conclusions as to the physiology of that gland. It seems clear that the phenomena of Addison's disease are the result of grave suprarenal inadequacy, for it has been shown by Rolleston that similar symptoms occasionally arise when the suprarenals have been in a state of hypoplasia or of fibrous degeneration. But it is impossible to say what share is taken by the cortex and what by the medulla in this malady. This difficulty in separating the functions of the two parts is apparently not so great when we come to the subject of excessive action. Cases which have been described by Bulloch and Sequeira, by Linser, by Shattock, and by Guthrie and d'Este Emery of sexual and skeletal overgrowth with obesity in the female and of similar overgrowth with sex precocity and hirsuties in the male are so often associated with overgrowth or tumours of the adrenal cortex that a causal relation between these conditions seems fairly evident. But if this is the case Czerny's five cases of hypoplasia of the medulla with hydrocephalus do not seem quite in keeping. Moreover, in Marchand's case a cortical tumour was found with emaciation. Sexual precocity also occurs in association with tumours of the ovary, of the testes, of the thymus, and of the pineal glands. We are puzzled again as to how a tumour like a hypernephroma can give rise to excessive secretion, especially as in some cases the suprarenal glands themselves are absent. We have, lastly, to account for those many instances in which hypernephromata are found incidentally, having given rise to no special symptoms. The situation bristles with so many difficulties that we are driven to the conclusion that there can be no direct or causal connexion between precocious gigantism or sexual precocity and tumours of the adrenal cortex. At the same time their frequent association points to some correlation between the organs concerned. Spontaneous overgrowth of the reproductive apparatus is apt to be associated with anomalies of growth or of development of the adrenal cortex, apparently for the same reason that the developmental errors of the fœtus occur together. They are not in the relation of cause and effect, but are the expression of some mutual understanding or correlation between the respective organs. They serve as an example of the importance of the sexual system in the correlations of the body.

By studying these extremes we arrive at some sort of conclusion, however hazy, as to the normal action of the glands in question. We find that by virtue of their secretions, or in some more cryptic manner, they preside over certain correlations of the body. These correlations are by no means rigid, but are, indeed, exceedingly variable, and this variability is most apt to be shown when circumstances are abnormal. The adjusting mechanism of development is not only flexible, but is more or less reciprocal, so that a ductless gland both influences development and is itself influenced by the changes of general development.

In the harmony which is produced by the concerted action of the ductless glands we have reason to suppose that the leading part is played by the thyroid. This supplies a stimulus for the metabolism of the body as a whole. During infancy and childhood, when it is most important that the

[2] THE LANCET, Feb. 1st, 1913, p. 305.

fires of metabolism should be controlled, the influence of the thyroid is checked by the thymus gland, by the lymphatic system in general, and perhaps by the pineal gland. These also bring about that delay of sexual activity which is so essential to the proper maturation and stability of the somatic faculties. Probably the first to break through this cordon of conservative influences is the adrenal system which awakens the dormant sexual organs and hastens the growth of the muscular and skeletal systems. At about the same time the skeletal system is still further stimulated by a secretion from the pituitary gland. This secretion quickens the development of every organ in the body, including the sex organs. These latter now ripen apace, and assisted by the combined action of the ductless glands, some animating, others restraining, carry the development of the body in waves and tides to its flood.

Reading.

MILITARY EXPERIENCES OF TRAUMATIC ANEURYSMS.[1]

BY DR. V. SOUBBOTITCH,[2]

SENIOR SURGEON, BELGRADE STATE HOSPITAL; LIEUTENANT-COLONEL IN RESERVE, SERVIAN ARMY.

BY traumatic or spurious diffuse aneurysm we mean an injury which produces an extensive and diffuse extravasation of blood into the tissues; by circumscribed traumatic aneurysm, that in which the extravasation is limited by a definite wall in a sac-like manner. In the case of arterio-venous traumatic aneurysms we may use, in place of the term "aneurysmal varix," that of *direct arterio-venous aneurysm;* in place of "varicose aneurysm," that of *indirect* arterio-venous aneurysm; with the addition of the word *diffuse* when there is a diffuse extravasation taking place through large or numerous openings, or *circumscribed* when there is a limited perivascular extravasation. There are, however, also traumatic arterio-venous aneurysms in which there is no appreciable perivascular extravasation.

I wish briefly to report the cases of traumatic aneurysm which have occurred up to the present time in our military hospitals in connexion with the recent Serbo-Turkish and Serbo-Bulgarian wars. These cases were treated by ligation or by suture by 16 different surgeons. Of these, ligation of large vessels was performed on 41 arteries and 4 veins, 45 in all. Partial suture was performed on 17 vessels, 8 arteries and 9 veins. Circular suture was employed on 15 vessels, 11 arteries and 4 veins. The total number of vessels sutured was 32, comprising 19 arteriorrhaphies and 13 sutures of veins. Altogether, therefore, operations were performed upon 60 arteries and 17 veins—that is, upon 77 of the greater blood-vessels. These operations were performed upon most of the large vessels of the body; the most common seat of operation was the femoral artery, which was tied 22 times and sutured 11 times. These cases occurred among 20,000 wounded, and doubtless there were other cases of which we have not yet received any report. I should now like to make a few observations on these cases.

Not uncommonly these aneurysms first became apparent several days after the infliction of the wound, often not until after the lapse of one to two weeks, or even later still. The wounded, who up to that time had complained of nothing, then developed the following symptoms: pain, abnormal sensations (paræsthesia), worse in the affected limbs, and swelling of the limb. Now and then the pulsating swelling developed very gradually without any special symptoms, with so little trouble, in fact, that the existence of the aneurysm was sometimes at first entirely overlooked, even by experienced surgeons. The swelling that resulted from the blood extravasation was sometimes small; on the other hand, it was sometimes enormous, especially when resulting from diffuse extravasation. The amount of pulsation was by no means always uniform. Secondary hæmorrhages were by no means rare; often they were very profuse and sometimes even led to a fatal issue. A serious complication was infection of the extravasated blood. The form and size of the wound in the vessel itself varied a good deal. In the base hospitals, complete transverse division of the vessel was seldom observed in cases of uncomplicated injury to the vessel. Generally there was a greater or lesser defect in the circumference of the vessel, a broad or narrow strip of the wall remaining intact. It was not uncommon to see two holes in a vessel, one on either side of its lumen.

Of especial interest were the arterio-venous traumatic aneurysms in which the well-known characteristic thrill was observed. Sometimes I noticed that this sign easily led to error in the exact localisation of the seat of lesion. The thrill ought not to lead to such an error. The upper limit of the thrill on the cardiac side does not indicate the situation of the communicating aperture in the blood-vessel. It must not be concluded that the thrill begins at the site of the injury and extends thence peripherally. Much more often it happened that the thrill beginning at the site of lesion extended centrally towards the heart along the vein and peripherally along the artery. In the direction of the heart the thrill often extended to a considerable distance. In one case of direct traumatic arterio-venous aneurysm of the external iliac artery I was able clearly to trace the characteristic thrill on the abdomen of the injured man as far as the liver and behind up to the lumbar region, while on the thigh it descended as low as the upper border of its lower fourth. In cases where both wounds of entrance and of exit have existed and which at the time of operation are often completely healed, and are necessarily covered up by iodine paint or other dressings, I recommend the operator to mark clearly, by means of catch forceps inserted into the skin, the exact position of these wounds, so that the exact situation of the wound in the vessel can be accurately located. It must, of course, lie directly between these two pairs of forceps. Occasionally, in cases where the vessels—an artery and a vein—were bound together with cicatricial tissue and where an aperture of direct communication existed between them, I noticed that the peripheral portion of the artery was perceptibly narrower than the proximal. More remarkable was the condition of the vein, which, as a rule, was considerably larger on the proximal (cardiac) side of the injury than on the peripheral. In the lower extremity especially it was evident that a not inconsiderable portion of the blood stream was diverted from the artery, not into the valvular peripheral lower portion of the vein, but into its central portion, thus being sucked upwards towards the heart (see figure). This explains the transmission of the thrill upwards along the course of the vein, towards the heart.

The dissecting out of the vessels is often rather tedious and requires patience. In certain cases of diffuse hæmatoma in which the blood has come from a simple hole in the vessel it is not necessary to make any exposure of the vessel by dissection above and below the wound. It is sometimes sufficient to perform a simple suture of the edges of the aperture. But in the case of arterio-venous aneurysms the artery and vein must be dissected away from each other sufficiently to separate completely the blood stream of each. Then resection, suture, or ligation can be performed as seems best. It must be remembered that free bleeding from the peripheral end of the artery is a sign that the collateral circulation has been well established. Suture is certainly the most difficult and tedious proceeding, and is undoubtedly not the right treatment in all cases; nevertheless, it appears to be efficacious and to be indicated not only in those cases where it is absolutely necessary, but in others where it can be easily and aseptically carried out.

I cannot here discuss the question of technique. If it is possible to retain strips of the vessel, preserving its continuity, this may be done with advantage by putting the stitches into the wounds of the vessel wall in a transverse direction. In general an otherwise healthy vessel appears to stand dissection, if not too prolonged, by no means badly. The hæmatoma must be removed, the bleeding vessels dealt with, and the cavity drained, after complete closure by suture of the incision wound, by other openings specially made for the purpose. In these cases secondary hæmorrhage may occur after several days and be very serious. No secondary hæmorrhage has occurred in our cases of suture.

[1] A paper communicated to the Surgical Section of the Seventeenth International Medical Congress on August 9th, 1913.

[2] I am indebted to my friend Mr. James Berry for kindly translating this paper into English.

In one case of lateral suture of the popliteal vessels progressive gangrene of the foot occurred, evidently from emboli due to thrombus. The large number (5 cases) of gangrene of the leg following deep ligation of the femoral (3) and popliteal (2) arteries is very striking. The early surgeons were already acquainted with the danger of such ligation. On seeing, some months later, cases that have been operated upon, we find not infrequently, both in cases of ligation and of suture, greater or less interference with functions, such as muscular weakness, paræsthesia, œdema, &c. On the other hand, we find some quite ideal cases.

When should an aneurysm be operated upon? Immediately, of course, in those cases where rupture and hæmorrhage are threatening. In other cases we see sometimes retrogression and even cure without any operation being undertaken. I myself saw a few years ago a very large, tense, diffuse traumatic aneurysm due to punctured wound of the femoral artery in its upper fourth. The wound was already healed, but I feared evil, and strongly recommended operation. This the patient refused. A colleague, however, injected gelatin, and the aneurysm disappeared.

We know that many aneurysms are cured by non-operative treatment, especially by well applied digital pressure, but these proceedings are difficult to carry out in military hospitals in time of war. Where the conditions make it possible non-operative treatment should be attempted. I have myself tried injections of gelatin on several occasions for our wounded, but only with transitory success. If hæmorrhage threatens, if the swelling increases, if the pain is severe, if there appears no tendency towards retrogression, then it is certainly better to operate than to wait.

Arterio-venous aneurysms should be operated upon, as they offer small prospect of spontaneous cure, although they often remain stationary for a long time and cause relatively little trouble. A certain amount of preliminary treatment is useful. It is especially desirable, when there is much swelling, that the limb should be elevated for a time in order to reduce the swelling, if the conditions permit of this. If operation is undertaken early, within a few days of the injury, the walls of the vessel will probably be found soft and friable, and the stitches will tear out easily. On the other hand, with later operations, three to four weeks after the injury, cicatricial changes are often found which render the dissection to a certain extent difficult. If there is extensive extravasation of blood into the surrounding tissues the hæmatomata should always be removed. Simple ligation of the afferent artery, without removal of the clots, may in certain cases cut off the circulation completely and thus produce gangrene. In some cases local anæsthesia is sufficient.

The localisation is often more easy if the operation is performed without the use of an Esmarch's bandage. We did most of our operations without it. Nevertheless, when this is possible, the bandage may be laid loosely round the limb in readiness for use if required. Perhaps the damage to the vessels is also less if Esmarch's bandage be not employed. If violent hæmorrhage suddenly occurs, as it often does while the dissection of the vessels is being carried out, it is not always easy to bring the bleeding points quickly into view. It is frequently possible with surprising rapidity to feel and to close with the finger the hole in the vessel from which the blood is flowing and which is frequently quite large. It is scarcely advisable to draw far-reaching conclusions from a somewhat small collection of cases. We must, however, remember that cases of this kind are only to be seen in any number in military hospitals in times of war, and experience of this kind is fortunately not common. In the future may it be rarer still!

CORNWALL COUNTY COUNCIL AND TUBERCULOSIS.—The Cornwall county council has decided to apply for sanction to borrow £3000 for the provision of a sanatorium for pulmonary tuberculosis for the county. It is proposed to purchase Watergate Bay Hotel, which is situated about two and a half miles from Newquay, and to acquire 12 or 14 additional acres of adjoining land. The building will provide accommodation for 60 patients. The cost of the entire scheme will be about £7000, and of this sum the local Government Board will provide three-fifths and the Cornwall county council the remaining two-fifths.

THE VALUE OF ANOCI-ASSOCIATION (CRILE).

BY J. HENRY CHALDECOTT, L.R.C.P. LOND.,
HONORARY ANÆSTHETIST TO ST. MARY'S HOSPITAL
AND
C. W. G. BRYAN, F.R.C.S. ENG.,
SURGICAL REGISTRAR TO ST. MARY'S HOSPITAL.

SINCE the publication of Dr. G. W. Crile's paper on this subject in THE LANCET of July 5th, p. 7, the method advocated by him of operating under a combined general and local anæsthesia has been employed at St. Mary's Hospital in a number of cases. The fact that it has been successfully carried out by several different surgeons, none of whom had had any previous experience of the technique, is sufficient evidence of the practicability of the method, and of the ease with which it can be adapted to the work of a busy London hospital.

In this preliminary communication we are publishing details only of the cases in which it was used for severe operations, or when the patient's condition before operation was extremely bad, as we wish to draw special attention to what appears to us to be the most valuable characteristic of anoci-association—viz., its power of minimising, and in some cases of actually abolishing, post-operative symptoms. Of the 11 abdominal cases reported only one was sick (very slightly), and this patient had had a little open ether during induction. It will be noted that two of the patients were women of over 80 years of age, one of whom had her gall-bladder removed for carcinoma and impacted gall-stones, and the other her gall-bladder opened and drained for acute cholecystitis. In spite of their advanced age neither of these patients had any post-operative symptoms, and they experienced so little discomfort that they did not know until their wounds were dressed that the operations had been performed.

In case No. 10 the operation was not severe, but the patient was desperately ill from ulcerative endocarditis and popliteal aneurysm, and could certainly not have been anæsthetised with chloroform or ether without very grave risk. She was in such a nervous and irritable condition that an operation under local anæsthesia alone would have been impracticable, and her leg was so acutely tender that it is doubtful if a gas and oxygen anæsthesia by itself would have been sufficient. This patient was told that she was to have a little gas to have her leg examined and rebandaged painlessly, and under the combined gas and oxygen and novocaine anæsthesia her femoral artery was tied, and the administration of gas and oxygen continued until she was back in bed. This patient had no post-operative discomfort of any kind, and only realised that an operation had been done when the stitches were removed about a week afterwards.

Case No. 6 was collapsed and almost *in extremis* when operated on, and would probably have died within a few hours had there been any additional shock from the operation or post-anæsthetic vomiting.

On the part of the surgeon success seems to depend upon the use of a sufficient quantity of novocaine for very extensive infiltration and upon gentleness in manipulation. When, as a result of sudden or rough handling, rigidity of the abdominal muscles occurs during the operation, it has been found that further injection of novocaine into the extra-peritoneal tissue usually causes almost instantaneous relaxation. Exploration of the viscera with the hand, rubber-gloved or naked, is well borne, and gentle gradual traction on mesentery is not followed by rigidity.[1] Gauze and linen peritoneal cloths are not well tolerated, and we have noticed this especially when they have been placed in relation to parietal peritoneum, and it may be that rubber packs could be used with less irritating effect. In sewing up the parietes relaxation has been obtained as good as, and in some cases better than, with chloroform anæsthesia, but at this stage especially gauze pads have seemed to cause rigidity, and immediate relaxation has followed their removal.

From the anæsthetist's point of view the difficult period is before the injection of the novocaine, when the patient is

[1] Crile: Seventeenth International Congress of Medicine, Section VII B., August 9th, 1913.

being moved about and placed in the necessary position for the operation. After the infiltration of the novocaine his duties are very much lightened, even with the type of patient who would be most difficult to anæsthetise with gas and oxygen alone. The anæsthetist's responsibilities are confined to keeping the patient unconscious, motionless, and breathing as quietly as possible. He is not called upon, as during a chloroform or ether administration, to deepen anæsthesia in order to produce muscular relaxation, the relaxation depending entirely upon the local anæsthetic, for which the surgeon is responsible.

It is usually possible in long operations to work with from 8 to 10 per cent. of oxygen. If cyanosis occurs with this percentage of oxygen it is generally a sign that the novocaine infiltration is insufficient, or that undue roughness is being used, causing reflex interference with the breathing. It is, of course, essential for the anæsthetist to ascertain before induction if the patient is a mouth breather, and if so, to insert a mouth-prop, as he will find it very difficult to do so, should the necessity arise, when the operation is in progress. An objection to the method has been raised that it lengthens the duration of operations. This has not been our experience as a glance at the appended table will show. Only a few extra minutes are occupied by the infiltration of the novocaine, and these are saved by the comparatively rapid induction of the general anæsthesia; but, in any case, the objection is not a very sound one, as a little additional time spent over an operation is of no importance if the net result, as shown in the absence of after-effects, is so strikingly good. So far we have not found that the infiltration of the novocaine and urea has had any effect on the healing of wounds.

We are indebted to the members of the surgical staff of the hospital for permission to publish the cases.

Table showing Details of Cases.

	Sex and age.	Nature of operation.	Anæsthetic.		Pulse before operation.	After-effects for first two days.				Remarks.
			Nature.	Duration.		Pulse.		Vomiting.	Pain.	
						Average	Maximum.			
1	F., 20	Acute salpingitis; exploratory laparotomy.	N_2O + O (E 10 min.).	45 min.	120	105	112	None.	Slight pelvic pain.	During examination of appendix through mid-line incision abdominal muscles became rigid, and open ether was given for 10 minutes. Otherwise complete relaxation with N_2O + O.
2	F., 80	Gall-stones and carcinoma; cholecystectomy.	N_2O + O.	45 ,,	88	99	108	,,	None.	Patient did not know any cutting operation had been done.
3	F., 86	Acute suppurative cholecystitis; cholecystostomy.	C E N_2O + O.	38 ,,	92	82	92	,,	,,	C E induction and during division of abdominal wall. No abdominal sensations at all after operation.
4	M., 22	Duodenal ulcer (second part); exploration and posterior gastro-jejunostomy.	N_2O + O.	1 hr. 2 min.	60	71	80	,,	,,	Patient very anæmic. No abdominal sensations after.
5	M., 25	Acute peritonitis (lymph); exploration of whole peritoneal cavity, mobilisation of duodenum, dissection of biliary tract, &c.	N_2O + O.	1 hr. 10 min.	104	81	116	,,	,,	Pain absolutely relieved. No abdominal sensations after.
6	M., 77	Carcinoma of colon, acute obstruction (four days); exploratory laparotomy; colostomy; two incisions.	N_2O + O.	1 hr. 15 min.	88	102	116	,,	Slight pain next day.	Extensive gangrene of colon, vomiting on third day, collapse and death on fourth day (general peritonitis). Very collapsed before operation. Afterwards general condition good, except for first hour after operation, until third day.
7	M., 39	Pancreatic cyst; exploration; drainage.	N_2O + O.	33 min.	104	100	104	,,	None.	General condition bad before; afterwards absolute relief of symptoms. No abdominal sensations.
8	F., 16	General purulent peritonitis (five days); drainage.	N_2O + O.	12 ,,	160	140	160	,,	,,	Before operation, extreme collapse, patient cold, thought to be moribund. Afterwards, pain absolutely relieved, no distension, no abdominal sensations. Death from septicæmia on eighth day.
9	M., 38	Duodenal ulcer; posterior gastro-jejunostomy.	N_2O + O (E during induction).	1 hour.	72	77	96	Three times two hours after.	,,	No abdominal sensations, except feeling of numbness next day.
10	F.	Malignant endocarditis; popliteal aneurysm; ligature of femoral artery.	N_2O + O.	—	—	—	—	None.	,,	General condition very bad before operation — no post-operative symptoms at all.
11	F., 35	Appendicitis and pyosalpynx; appendix and tube removed; Trendelenburg position.	N_2O + O.	55 min.	90	88	104	Slight retching three times.	,,	Retched slightly three times during first 24 hours; otherwise no discomfort at all.
12	F., 60	Carcinoma of sigmoid; intestinal obstruction; manual exploration and colostomy.	N_2O + O.	50 ,,	—	—	—	None.	,,	Had been sick for several days after other operations, and was much gratified at absence of vomiting and pain on this occasion.

LITERARY INTELLIGENCE.—Amongst the new works announced by Messrs. J. and A. Churchill are the following:—"Industrial Organic Analysis: for the Use of Technical and Analytical Chemists and Students," by Mr. Paul S. Arup, with a Foreword by Dr. J. C. Irvine, Professor of Chemistry at the University of St. Andrews; "Quantitative Analysis in Practice: an Introductory Course designed for Colleges and Universities," by Mr. John Waddell, Assistant Professor of Chemistry, School of Mining (Queen's University), Kingston, Canada; "Bloxam's Chemistry, Inorganic and Organic," tenth edition, revised by Mr. A. G. Bloxam and Dr. S. Judd Lewis; "Practical Chemistry: Qualitative Exercises and Analytical Tables for Students," by the late J. Campbell Brown, Professor of Chemistry, University of Liverpool, sixth edition, revised by Dr. G. D. Bengough, lecturer on metallurgy, University of Liverpool; and "Dental Anatomy, Human and Comparative," by Mr. C. S. Tomes, seventh edition, revised by Dr. Marett Tims and Mr. A. Hopewell-Smith.—Messrs. Constable will publish almost immediately the "Life and Letters of Alexander Agassiz," edited by his son.

Reviews and Notices of Books.

Practical Bacteriology, Microbiology, and Serum Therapy (Medical and Veterinary). By Dr. A. BESSON, formerly Director of Bacteriological Laboratories of the Military Hospitals of France. Translated and adapted by H. J. HUTCHENS, D.S.O., M.R.C.S. Eng., D.P.H., Heath Professor of Comparative Pathology and Bacteriology of the University of Durham. With 416 illustrations, 149 coloured. London: Longmans, Green, and Co. 1913. Pp. 892. Price 36*s.* net.

THERE is no doubt that a work of this exact character did not exist in English and that one was needed. In aim and method it resembles the "Bacteriological Technique" of Dr. Eyre very closely, but this, though similar, covers a more restricted field. In France the book has run through five editions since 1897, so it would appear to be popular, and it is from the last French edition that the present translation is made.

The book is designed as a laboratory guide and the object kept steadily in view has been to "make it a true *vade mecum*." The experience of the author as teacher and director of laboratories well qualifies him for this undertaking. The rigidly practical basis of the original work has been modified, and a chapter on immunity and on the properties of immune serums has had to be admitted in order to make modern methods of investigation comprehensible. The English edition is an adaptation rather than a translation from the French; the arrangement of the text is somewhat different, additions have been made, and changes introduced. The principal changes occur in the chapters on the paratyphoid bacilli and the theory of the microscope, while the results of the Royal Commission on Tuberculosis have been added. All laboratories develop their own technique and have their favourite methods, and it is a useful feature of this work that where alternative processes are given the author and translator express their own preferences.

Perhaps the chief feeling with regard to this book is astonishment at the extent of ground covered and the amount of detail included. It is divided into seven parts: (1) General Technique, (2) Pathogenic Bacteria, (3) the Parasitic Fungi, (4) the Pathogenic Spirochætæ, (5) the Parasitic Protozoa, (6) the Filtrable Viruses, and (7) the Application of Bacteriological Methods to the Examination of Water, Sewage, and Air. It is impossible, and as is suggested above it would be useless, to criticise in detail, and the chief lines of treatment of the subject can alone be indicated. Part 1 covers all that is usually embraced in works regarded as laboratory handbooks. Here the chapters dealing with animal inoculations, a subject generally scantily dealt with in English works, should prove useful, as well as a short account of the spontaneous diseases to which experimental animals are liable. The methods for performing a large variety of experimental inoculations are carefully and clearly explained, as well as those for conducting post-mortem examinations and for collecting material for investigation. The rest of the work deals with individual micro-organisms. This portion loses somewhat its laboratory handbook character, and resembles in substance and method the systematic text-book, but there is a greater insistence on the methods and results of experimental inoculations and fuller details as to the detection and identification of the micro-organisms. The isolation of B. coli and B. typhosus and of the paratyphoid group of micro-organisms is dealt with in detail, as is also the differentiation of the various streptococci. The serum diagnosis of syphilis is treated comparatively briefly.

Though the book contains nearly 900 pages, being printed on thin paper it remains of moderate bulk. It is well and accurately printed and the illustrations are good and well reproduced. It is not an elementary book, but rather one for the skilled worker, who can refer to it with considerable certainty that he will find assistance in its pages. A most useful laboratory handbook.

Diseases of the Mouth, Syphilis and Similar Diseases. By Professor Dr. F. ZINSSER, of the City Hospital, Lindenburg, &c. Translated and edited by JOHN BETHUNE STEIN, M.D. With 52 coloured and 21 black and white illustrations. London: Rebman, Limited. Pp. 269. Price 30*s.* net.

IN THE LANCET of March 8th of this year we noticed the German work of which this is a translation, and we may express our pleasure at seeing this useful atlas in an English garb, which will enable it to be appreciated by very many to whom the German text would be useless. The illustrations are of a high order of excellence, and the account of the manifestations of syphilis, especially those affecting the mouth, is clearly written. The translation is good, though there is a little tendency to leave expressions in the form in which they appeared in the German original; thus we are told "a leucoderma colli was present." This is an expression which would never be used in an original English work. These, however, are only small matters, and we can speak very favourably of the work of the translator. Dr. Stein has made a number of additions to the original text, and he has added four drawings by Mr. Francis Ovary.

Diseases of the Skin. By DAVID WALSH, M.D. Edin., Senior Physician, Western Skin Hospital. With 29 illustrations. London: Baillière, Tindall, and Cox. 1913. Pp. 298. Price 6*s.* net.

ANOTHER handbook for practitioners and students who desire to familiarise themselves with the diseases of the skin. But Dr. Walsh entertains original views as to the origin of many cutaneous diseases. Some of his opinions are probably destined to find wider support in the future, but others are already discredited or based on insufficient evidence. For example, he does good service in drawing attention to the influence of the circulatory system, especially of cardiac failure, on cutaneous diseases, a fact which has not been sufficiently noted (in writings, at least) by dermatologists in the past, but he carries his conclusions to an extreme to which it is impossible to follow him. As an example of an incredible hypothesis we may draw attention to p. 120, where it is suggested that "psoriasis patches may be caused by a blood distribution of seborrhœic organisms that have originally found an entrance through the scalp, and are attempting excretion from the body by way of the skin."

The descriptions of diseases are systematically arranged and are clear throughout. X rays, high frequency, ionisation, Finsen light, radium, carbonic acid snow, and Bier's hyperæmia are discussed. Treatment is concisely dealt with, and only what has been tested and approved is mentioned. The accounts of pellagra, eczema, scabies, and other common diseases are complete and up to date. The cutaneous manifestations of syphilis are not so fully described as is advisable in a student's handbook. In the paragraphs on the diagnosis of syphilis the methods of detecting the presence of the spirochæta are not mentioned, but the value of the book is enhanced by the description of the Wassermann test, which appears in an appendix written by Dr. Harry Campbell. Every student and practitioner who has toiled through laborious explanations of this complex test will be grateful to Dr. Campbell for these lucid pages. Amongst the omissions in the volume which should

be corrected in a future edition are a differentiation of the various body ringworms. We strongly dissent from the statement that a skilled operator in electrolysis will find 50 out of every 100 hairs extracted returning. There are a few misprints: p. 99, ozidi for oxidi; p. 102, irrigation for irritation; p. 115, Dockhart for Bockhart.

However much he may disagree with certain dicta of this book, the practitioner will find it of interest. The illustrations are excellent and the printing clear; the book is of a convenient size.

Lehrbuch der Militärhygiene. V. Band. *Militär Sanitätsstatistik.* By Professor Dr. H. SCHWIENING. Berlin: A. Hirschwald. 1913. Pp. 600. Price 10 marks.

THIS bulky and closely printed volume is a complete encyclopædia of statistical information in regard to the health of armies of all nations. The author does not limit the term "statistics" to a collection and enumeration of facts, but endeavours to ascertain thoroughly both the causes and the consequences of the phenomena that statistical research brings to light.

The first section deals with the history and theory of statistics in general. Conring, of Helmstadt (1606–81), and Achenwall, of Göttingen (1719–72), the latter being often called the "Father of Statistics," are mentioned as pioneers, but John Graunt (1620–74), who wrote "Natural and Political Observations upon the Bills of Mortality" of London (1665), Sir William Petty, the author of "Political Arithmetic" (1691), and Edmund Halley, the astronomer, are also given credit. In recent times Quetelet, Oesterlen, and Koch are cited as the chief workers in this science, while at the present day F. Prinzing, author of "A Handbook of Medical Statistics" (1906), A. Weinberg, of Stuttgart, and Karl Pearson are especially noted. A section is given to a sketch of the development of army statistics. In Prussia J. L. Casper's work on "Army Mortality in 1829–38," published in 1843, was the first attempt to deal with this subject; in England similar records had already been commenced in 1838; in Austria they date from 1844; in France from 1852.

The second section deals exhaustively with the subject of recruiting statistics. Germany, Austria-Hungary, France, and Italy are treated in detail; the remaining countries of Europe, the United States, and Japan somewhat briefly. In the third section, of 250 pages, the statistical aspect of the various diseases met with in military service is discussed with similar thoroughness. There is a wealth of tabulated information of great use to investigators in comparative statistics, but which does not readily admit of being epitomised. From the latest figures available (1909 or 1910) it appears that the total admissions to hospital or detentions in quarters, including cases of sickness of all kinds, among European armies (1908–09), vary from 473 per 1000 in the case of Bavaria to 2162 per 1000 in the case of France. So great a difference merely shows that the statistics are not really comparable. The actual hospital admissions range from 230 per 1000 in the Bavarian, to 439 in the Spanish army, the British army at home occupying a middle place with 378 admissions per 1000; the Prussian army had 250, and the French 266 per 1000; in Japan the ratio is only 149·3.

The prevalence of enteric fever in European armies has on the whole diminished during the last ten years. In the British army at home there were 1·6 admissions per 1000 in 1901, since which year the ratio has steadily fallen to 0·4 in 1910 (a slight increase to 0·6 occurred in 1911). In the Prussian army the admissions were also 1·6 per 1000 in 1900–01; the decrease has since been fairly regular to 0·4 in 1909–10. In the Bavarian army the disease has prevailed but slightly (with less than 1 per 1000 admissions) during the decade, the ratio for 1909–10 being 0·18. In Belgium the ratio for 1910 was 0·92; in Austria-Hungary it was 1·3, the lowest hitherto recorded. But in France, Russia, and Spain the position is not so satisfactory. It is true that the admissions in the French army, 3 per 1000 in 1909, were the lowest hitherto recorded; but this is a higher ratio than has occurred in the Prussian army since 1890, or in Belgium (with one exception) since 1897. In Spain the ratio has varied during the last eight years between 2·6 and 4·8, until 1910, when it reached 7·0 per 1000. In Russia it was 5·6 in 1909, the latest year for which statistics are available, and has never fallen below 4 per 1000.

Pulmonary tuberculosis shows a satisfactory diminution in the case of most of the armies for which statistical data are available over a prolonged period. In the Prussian army the admissions had never fallen below 2·0 per 1000 down to the year 1896–97; since then they have never reached this figure, and since 1906 have not exceeded 1·4 per 1000. In the Bavarian army a similar improvement is to be observed; down to 1897 there had never been less than 2·3 admissions per 1000; since 1902 they have been below 2·0 per 1000. In the Austrian army since 1894 they have also always been below 2·0 per 1000. In the French army the incidence is higher, and does not show any marked tendency to decrease; only in one year (1904–05) has the ratio fallen to 4·0, and in many years it has been over 5·0 per 1000. In Spain also there is not much improvement, the admissions amounting to 5·8 per 1000 in 1907–08–09.

With regard to all the important diseases met with in military practice similar exhaustive statistics are summarised and correlated, representing an enormous amount of labour successfully achieved.

Influence of Thermal Environment on the Circulation and the Body Heat. By EDGAR R. LYTH, M.B. Durh., M.R.C.S. Eng. With 15 charts. London: John Bale, Sons, and Danielsson, Limited. 1913. Pp. 72. Price 2*s.* 6*d.* net.

THE author has made more than 25,000 observations on the pulse-rate, blood pressure, and the superficial and deep temperature of the body under various conditions. The temperature is recorded in the Fahrenheit scale, the blood pressure was taken by Oliver's hæmodynamometer applied at the wrist, while the pulse-rate was taken in half-minute counts and doubled. First, observations are given on three boys during what the author calls the "hot condition"; when the pulse-rate rose the vascular pressure fell. The author discusses the significance of the changes observed in the state of the circulation in the "hot" and "cold" conditions, and he concludes that a double result is brought about by each agent; "heat leading to an enlarged peripheral and cutaneous area of the circulation by relaxing the blood-vessels and coincidently inducing a diminution of the mean vascular pressure; and cold, by increasing the vascular constriction, reducing the field of irrigation at the surface and at the peripheral parts and synchronously raising this pressure."

An account is given of the redistribution of internal heat after exposure to cold, equalisation of loss and production of heat, effects of warm, hot, and cold baths, reflex acceleration of the pulse-rate by cold and hot water in motion, and changes of the circulation in a varying thermal environment. The author concludes that in a given thermal environment a certain corresponding equilibrium of the circulation becomes established; as regards the blood-vessels, a suitable degree of muscular contraction; and as regards the heart, a suitable rate and force of its pulsations. These factors affect the

pressure and speed of the current, and involve a corresponding distribution of the blood in the skin, superficial and remote parts, and in the arterial vessels.

LIBRARY TABLE.

Zones of the Spirit: a Book of Thoughts. By AUGUST STRINDBERG. London: George Allen and Co., Limited. 1913. Pp. 286. Price 5*s.* net.—August Strindberg, who died in May, 1912, was a man who passed through the fire of religious doubts and seeking in a manner comparable to St. Augustine. The book now before us was written at the age of 60, and in it Strindberg put down his thoughts upon an infinite variety of subjects. Much of the work has the obscurity of Blake, but as a record of the intellectual striving for the light it is of great interest. After many wanderings he came to the same conclusion as did St. Augustine, who said: "Thou hast made us for Thyself, and our heart is restless until it rest in Thee"; and the final sentence of Strindberg's book is, "Seek truth, for it is to be found, but only in one place, with Him who Himself is the Way, the Truth, and the Life."

The Distinction Between Mind and Its Objects. Being the Adamson Lecture for 1913. By BERNARD BOSANQUET, M.A., D.C.L., LL.D., F.B.A. Manchester: University Press. 1913. Pp. 73. Price, paper, 1*s.* net; cloth, 1*s.* 6*d.* net.—This lecture is really a critique of the "New Realism" that we owe to the Manchester school of philosophy—"the novelty is this: that the realism in question, though it gives much less to Mind than Idealism, gives much more to Reality than Materialism." Popular materialism believes in an external material world and that "such characters as shape and motion are self-existent properties of things, while colour and sound for instance are effects produced in our minds through our sense-organs." Hence it tends to place all the things we care about most—voices, music, light, taste—on a "lower level of truth and reality than things like atoms and gravitation." The idealist points out that "as objects of mind, space, and motion, and so forth, are just on the same level with sound and colour," and hence "all objects of mind become either bits of mind or products of mind." According to the New Realism, "acts, and acts only, belong to mind ..... all objects, including contents, are external." Colour, for instance, is an "aspect of physical reality and is there in space, over against our mind." Justice, however, is hardly done to æstheticism; "a thing may be charming quite as really and truly as it is red, but its charm according to this realism must be a mind-dependent attribute (for to be charmed is a mental act), while its redness is physical and mind-independent." Dr. Bosanquet criticises the New Realism by saying that "all qualities involving pleasure and pain are mind-dependent, and no physical realism can recognise them as real. And yet in truth they are the most actual, most profoundly inherent, most objectively characteristic qualities of all." To all who are interested in the New Realism we recommend most heartily this sympathetic but critical essay.

The Philosophy of the Present in Germany. By OSWALD KÜLPE, Professor of Philosophy in the University of Bonn. Translated by M. L. and G. T. W. PATRICK. London: George Allen and Co. 1913. Pp. 256. Price 3*s.* 6*d.* net.—As the translators say in their preface, "Professor Külpe's book gives a clear picture of four of the typical philosophical movements of the present time in Germany—Positivism, Materialism, Naturalism, and Idealism—and he sets them before us in the form presented by the leading representatives of these movements—men like Mach, Haeckel, Nietzsche, and Wundt. ..... Following the detailed exposition of each philosopher there is a concise and penetrating critique." In Germany, we are told that "the philosophy of the present bears largely the character of Positivism," but we think that in England the books that have the largest sales are those of Haeckel and Nietzsche. The Russian physicist Ohwolson has shown how little Haeckel is to be relied upon in exact science. Nietzsche, the apostle of Naturalism, set himself the task of the "revaluation of all values." "I teach the Nay to all that makes weak, that exhausts. I teach the Yea to all that strengthens, that conserves force, that justifies the feeling of force. ..... Virtue, self-renunciation, compassion, even negation of life, have been taught; all these are values of the exhausted." With Nietzsche there is no other objective standard of values than life and vitality. "Life is will to power." The fifth chapter on Idealism is perhaps the most important in the book. Eighty-seven pages are devoted to the four exponents of this system—Fechner, Lotze, Hartmann, and Wundt—and to a general critique of Idealism. The section on Wundt is the most difficult to follow, but the difficulty arises entirely from the intrinsic obscurity of his views, not from Professor Külpe's exposition of the system. In his metaphysics Wundt shows a reserve which leads him to avoid all superfluous and baseless speculations and to renounce all specious reasoning which does not agree with strictly scientific method. "In his reverence for facts and for the sciences which deal with facts he is not excelled by any Positivist ..... and yet Idealism, with its transcendent realities of spiritual life, receives at his hands a complete and undiminished vindication. Will and Idea are the ultimate elements of all reality." As the author points out, the chief difficulty with his theory of individual activity of the will lies in the fact that it does not explain the empirical manifoldness of psychic processes. Why should one element of the psychic ego be considered more fundamental than another? We congratulate the translators on their success in presenting this excellent book to English readers, and believe that it will prove itself to be an invaluable text-book for the use of college classes in modern German philosophy.

The Reduction of Domestic Flies. By EDWARD HALFORD ROSS, M.R.C.S. Eng., L.R.C.P. Lond., of the John Howard McFadden Researches, Lister Institute of Preventive Medicine, &c. London: John Murray. 1913. Pp. 103. Price 5*s.* net.—If we may judge from the fact that we had very recently to review a book on this theme from an American writer, and that we here have one from an English source, it would seem that considerable attention is now being devoted to the part played by flies in the propagation of disease, and to the importance of controlling this danger. After an introduction dealing with the general nature of the problem, Mr. Ross discusses the rôle played by flies in the domain of public health, their development and life history, their various enemies, the methods which must be adopted to diminish their numbers, and the nature of the opposition which vigorous measures are likely at the outset to arouse. He insists on the importance of educating the rising generation in the subject, and probably for the benefit of children and for the assistance of those who have to teach them, he gives a popular account of the life of a fly in the form of a biography. In this chapter we even encounter the word "galumphed," borrowed from the vocabulary of the late Lewis Carroll. Mr. Ross, who has taken part in campaigns against mosquitoes in tropical lands, is sanguine that the success there attained can be repeated in the case of flies nearer home. Beginnings have been made in the county of Norfolk and in Liverpool in this country, and in America various organisations have been created for the destruction of flies. Education in the reality of the mischief wrought by flies is the first step in a general crusade, and

the book before us will be of use for this purpose. It is fully illustrated with pictures of flies and their larvæ and pupæ under different conditions, the plates not, however, being original.

Cancer: the Problem of its Genesis and Treatment. By F. W. FORBES-ROSS, M.D. Edin., F.R.C.S. Eng., D.P.H., late Civil Surgeon, His Majesty's Guards' Hospital. London: Methuen and Co., Limited. 1912. Pp. 261. Price 5s. net.—The essential point in the author's theory of the cause of cancer is that it is due to a deficiency of potassium salts in the body, and it naturally follows that the treatment which he advises and employs for the cure of the disease is the administration of potassium salts. He gives many arguments in favour of his theory, and he supplies details of some cases which have been under his treatment in which the administration of salts of potassium has been followed by more or less complete recovery. The administration of the potassium salts is combined with the local application of radium. The cases are too recent and too few in number to enable any definite opinion to be formed as to the value of the treatment, but we believe the author to be thoroughly convinced of the truth of his theory.

The Causes of Deafness. Four lectures delivered under the auspices of the National Bureau for Promoting the General Welfare of the Deaf. By J. KERR LOVE, M.D. Glasg., Aural Surgeon, Glasgow Royal Infirmary, &c. Copies to be obtained at 104, High Holborn, W.C. Price 1s.—Dr. Kerr Love has given in the form of four lectures a most interesting study of the causes of deafness. Especially interesting are the histories of the deaf-mute families and the means to be taken for the prevention of acquired deafness. These lectures are of interest alike to the lay and to the medical public, and one cannot help but think that the study of them will be of very great value; especially will they be of service to all those who have to deal from an official point of view with the general health of children. They should be read by all Poor-law officials, and also by all those who have control of the large schools for the poorer classes, for it is only by a proper comprehension of the factors causative of disease that disease can be diminished.

Memoirs of the Department of Agriculture in India: Successful Treatment of Surra in the Camel. By A. S. LEESE, M.R.C.V.S., Agricultural Research Institute, Pusa. Calcutta: Thacker, Spink, and Co.—Surra is a very prevalent and fatal disease of the camel, and the losses to the Imperial Government have caused them to detail Mr. Leese, M.R.C.V.S, an officer in the Civil Veterinary Department, for special duty in investigating this and other diseases of the camel. Surra is due to the presence of the Trypanosoma Evansi and affects horses, mules, and camels with equal severity, whilst cattle and carnivora are not exempt. Certain species of fly are, as is often the case in these diseases, the intermediary hosts, and the ravages of the disease cause great losses, while animals which have once been infected may carry the parasites in their blood for years. All who have to do with the camel require patience, and continuously and successfully to study this animal in disease is a genuine exploit. Mr. Leese deserves all the encouragement which the Government of India can give him. His book deals with a number of experiments which he has carried out with different combinations of atoxyl, tartar emetic, and sodium arsenate, and apparently where the animals were able to stand treatment there was an encouraging proportion of cures, but where the pathological state was highly developed all treatment, in some cases at all events, appeared to shorten the end. At present, apparently, there is no specific, and much more experimental work must be done on surra before a satisfactory result can be claimed.

SEVENTEENTH INTERNATIONAL CONGRESS OF MEDICINE.

THE SECTIONS.

SECTION III.—GENERAL PATHOLOGY AND PATHOLOGICAL ANATOMY.

FRIDAY, AUGUST 8TH.

President, Professor S. G. SHATTOCK (London).

Discussion on Fatty Bodies and Lipoids.

Professor IVAR BANG (Lund) summed up the present state of knowledge on the lipoid bodies. He remarked that these labile bodies have seldom been isolated, but they play an important part in the structure and function of cells. They are extremely active and combine with albuminous bodies very readily. He discussed the connexion between the osmotic property of the lipoid cell membrane and the production of narcosis, the effects of the excitation of lipoids instead of their suppression, and finally the relation of lipoids to toxæmias, immunity, &c. There can be no doubt, he said, that these bodies play an important, though as yet little understood, part in the body economy.

Dr. S. FRÄNKEL (Vienna) had investigated the lipoid content in cases of pregnancy, and his tables demonstrated an increase of fats and lipoids in such cases, and also a rapid increase in the early days of lactation.

The Chemistry of the Lipoids was dealt with by Dr. W. CRAMER (Edinburgh). He criticised the various methods of identifying the fatty bodies, and concluded that the Marchi method was specific only for unsaturated glycerides. He demonstrated on the screen the distribution of fat in histological specimens of different organs, and pointed out that this method ought never to replace the determination by chemical analysis. His methods included the solvent action of acetone and alcohol, the use of osmic acid and Marchi's method, and the use of the polariscope, and he tabulated the varying behaviour of cholesterin, olein, oleic acid, lecithin, cholesterin palmitate, and cholesterin oleate, and then summarised his findings with normal and degenerated nerve tissues. He had demonstrated fat in the convoluted tubules of a cat's kidney, and also in the suprarenal body.

Professor W. G. MACCALLUM (Columbia University, U.S.A.) read a paper by the late Dr. Angus Stewart on the Relation of the Lipoids to the Function of the Adrenals, in which it appeared that there exists excess of cholesterin esters in the blood in pregnancy. Pregnant animals survived extirpation of the adrenals longer than normal animals, and this, perhaps, was associated with the excess of lipoids in their blood.

Professor J. G. ADAMI (Montreal), Professor G. ROSENFELD (Breslau), Professor L. ASCHOFF (Freiburg), and others then took up the discussion, which resolved itself into the question as to the nature of fatty disease.

Professor ROSENFELD considered that there was a real increase of fat in the organs, but Professor ASCHOFF said that this was not so, as although there was undoubted transportation there was a corresponding removal of allied bodies from the cell. Dr. Leathes had shown, in cases of diphtheria at least, that there was no actual increase of fat in the viscera which showed fatty degeneration.

Professor ADAMI urged the distinction between fatty infiltration and fatty degeneration, and recognised a histological difference between the globules of fat occurring in the cells under these conditions, though, of course, the latter was often accompanied by the former. He pointed out that there was now general acceptance of the work of Aschoff and himself in 1906, in which they showed that the doubly refractive bodies of the adrenal cortex and elsewhere were of the nature of cholesterin esters.

In the afternoon Dr. G. ROUSSY (Paris) read a paper on

Cytological Reactions resulting in Tissues around Deposits of Cholesterin.

His slides showed active cell increase in these regions with the formation of giant cells. He then gave an account of some granular bodies found around a cerebral cyst which contained two types of fat substances as revealed by the different affinities for fat stains.

Dr. Roussy's paper met with support from Dr. M. J. STEWART (Leeds), who described similar findings in the case of dermoids and sarcoceles.

The PRESIDENT brought forward a new fatty tumour removed from the elbow of a patient, in which the cells showed a central nucleus and closely aggregated small globules of fat. This he called lipoma glandulare. He compared this with the hibernating glands of the hedgehog, and what he considered to be the analogue of these in man—namely, fatty masses in the neck of the human embryo—and with these he discussed the masses of glandular fat occurring in cretins at the root of the neck.

Professor G. S. WARTHIN (Ann Arbor, U.S.A.) had met similar tumours in animals. He also read a paper on

The Reaction of the Hæmolymph Nodes to Chronic Protozoal Infections.

Working on Texas steers suffering from Texas fever, he had noted an extraordinary hyperplasia of the hæmolymph nodes. These sometimes reached the size of a small orange, and histological examination revealed great lymphoid activity and the production of lymphocytes. This condition was common to protozoal infections. The glands in chronic malaria resembled those in Banti's disease, and in syphilis also he had found similar glandular changes.

Professor PIETRO GIUZZETTI (Parma) gave a demonstration of microscopical specimens and lantern slides on the development of strands of pavement epithelium in the anterior lobe of the pituitary body in an infant a fortnight old. These findings appeared to have some bearing on the formation of malignant growths.

SATURDAY, AUGUST 9TH.

The Grafting of Normal Tissues as Dependent on Zoological or Individual Affinity—Autoplastic, Isoplastic, Heteroplastic.

A discussion on this subject was opened by Professor Dr. MAX BORST (Munich), with a *résumé* of the work done and a summary of his own extensive work in this direction. His beautiful lantern slides included the grafting of butterflies one to the other, earthworms whose heads had been interchanged, tadpoles variously malformed and augmented by additions of grafts from other tadpoles, and the formation of new joints in man. He discussed the conditions determining the success of such procedures. The more highly developed the animals the less are the chances of success. The results differ according to the origin of the grafts—i.e., whether they come from the same animal (autoplastic), similar animals (isoplastic), or quite different animals (heteroplastic). With heteroplastic grafts, on the whole, the results have been failures. Isoplastic grafting, though more favourable, does not appear to be enduring, for black negro skin transplanted on to white skin gradually changes to white skin and corneal grafts become transparent, so that it points to a process of substitution by the host's tissues of the grafted tissue. Autoplastic grafting has met with great success, and the tissues are preserved for a long time. He mentioned Carrel's successful experiments in suturing blood-vessels, with maintenance of the circulation, and the transplantation of entire organs. He discussed also the "explantation of tissues," or the attempts at preserving and cultivating them *in vitro* in suitable media. To account for the failure of isoplastic and heteroplastic grafting he propounded the theory of "biochemic difference," which recognises an extreme specialisation of the cells of higher animals with the production of a specifically reacting system. He concluded that there could be no hope of an enduring result in the case of isoplastic or of heteroplastic grafting, though the grafts may serve as foci or perhaps even models on which the host regenerates its own tissues. The maintenance of the graft will depend on the "biochemical relationship" between the graft and the host.

The PRESIDENT produced specimens from the Hunterian Museum which had been prepared by Hunter, who had carried out numerous experiments on these lines. In the specimen of the cock's comb with a human tooth graft there was evidence that the tooth had continued to live. He agreed that heteroplastic grafting was unsatisfactory, and the graft did not live as long as the host. He had attempted to graft fœtal bones from rabbits beneath the skin of the doe; the bones persisted but took no part in the life of the animal. The question of heteroplastic grafting was intimately associated with the question of species, and he considered that if such grafting could be permanently successful it would break down the barriers between different species. As it was, the failure explained the sterility which existed between different species of animals. He accentuated the importance of recognising a definite coördination of growth or an interdependence between the tissues of an animal.

Dr. J. B. MURPHY (New York) detailed experiments of grafting rat tumours into chick embryos with the production of growing masses for a time.

Dr. E. F. BASHFORD (London) dwelt on the results of immense numbers of tumour transplantations carried out in his laboratories and the difficulties of successfully producing such growths, the idiosyncrasies of such tumours, and the fact that normal mice were unaffected thereby, together with the observation that tumours could not be transplanted to other mice. He expressed the view that there was no prospect as yet of being able to replace diseased organs, such as kidney, with healthy ones.

Dr. LAMBERT (New York) had experimented with tissues which he had kept in plasma mixed with Ringer's fluid for as long as 35 days, obtaining definite evidence of proliferation.

MONDAY, AUGUST 11TH.

The Pathology of Shock.

This discussion was opened by Professor YANDELL HENDERSON (New Haven, U.S.A.), who pointed out that shock in the broad sense in which the term is often used is not a single, clear-cut disorder, but a group of conditions of superficially similar appearance. The term is also applied to various modes of sudden death. The older surgeons regarded concussion and shock as the same thing, and imagined that as a result of local concussion, vibrations were transmitted throughout the body, and led to a depression of vital functions. Crile has taught that the first avenue of shock is *viâ* the nervous system. Professor Henderson went on to enumerate the various types of shock, such as electrical shock, sometimes fatal; anaphylactic shock; emotional shock following grief or fright; and a condition of death under chloroform, even in the early stages seen both in man and in experimental animals. In recent years, he said, shock has been regarded as a state of depression, but different workers must necessarily view it in a different light. For example, the gynæcologist sees it as a result of hæmorrhage, the general surgeon sees it following severe injuries and simulating hæmorrhagic shock, whilst the more specialised surgeon sees it as a post-operative depression of vitality. To these must be added spinal shock which follows section of the spinal cord in animals, and a state of shock which follows toxæmic states. Goetz's frog-tapping experiments, by which syncope resulted, originated the earliest views of shock, but shock was not syncope. Professor Henderson differed from the view that had always been held that vasomotor failure was invariably present, that many other functions were equally depressed—e.g., respiration, the tonus and peristalsis of the intestines, &c. He next elaborated his view that syncope is essentially like spinal shock, and surgical shock is essentially like hæmorrhagic shock, but that the type of circulatory failure differs in the two groups. He produced experimental and clinical evidence in support of his acapnia theory of the fatal apnœa that may result from pain or other excitement. By this he held that carbon-dioxide is a most important stimulant for the respiratory function, and loss or diminution of CO_2, such as can occur as a result of the hyperpnœa and consequent excessive ventilation of the lungs which accompanies severe pain, leads to apnœa, and death may result from lack of oxygen. He pointed out also that CO_2 has a specified stimulant influence on peristalsis, and so might be given in tympanitis, &c. In his attempts to produce traumatic shock by exposure and irritation of the abdominal viscera the dogs used usually died from failure of respiration long before there was any marked fall in arterial pressure, and, indeed, Crile's published statistics agreed with this view. Thus, when shock follows intense physical suffering not complicated by hæmorrhage there are two principal stages. At first the excessive breathing diminishes the CO_2 content of the blood. If during this period of acapnia the pain is diminished the respiratory centre may lapse into a fatal standstill. If, however, the pain continues and so keeps the respiratory

centre excited, then the condition of acapnia becomes more and more acute until the circulation fails. He next discussed the failure of the circulation in shock, and distinguished between experimental shock accompanied by destruction or paralysis of the vasomotor centre and clinical shock. He pointed out that werehas arterial pressure alone had been considered by most workers, a most important but little understood factor was the veno-pressor mechanism, and he summarised this by saying that it is the vasomotor centre which fails in spinal shock, but the veno-pressor mechanism in most, if not all, of the clinical forms of shock. He had experimented to determine the factors which normally control venous pressure and supply of blood to the right heart, and concluded that there is no effective nervous control of the systemic veins, but that the venous-pressor mechanism consists in the amount of blood in the body and the conditions controlling the volume, so that an animal dying of true circulatory shock is like one that has been exsanguinated. He concluded by urging workers to cease debating the sterile question as to the state of the vasomotor centre and to devote investigations to the observing of the factors controlling the blood volume under normal and abnormal conditions. Shock, he said, is not vasomotor failure; its fundamental conditions are not nervous, but chemical.

Mr. J. D. MALCOLM (London) agreed in great part with what had just been said. In abdominal operations he had seen many cases of shock, but he had never seen the congestion of the splanchnic area such as his early teaching led him to expect. On the contrary, the peritoneum became pale and anæmic. Hence he very early concluded that the vessels become more and more contracted as shock develops, and opposed the theory of vasomotor paralysis. The fact that blood pressure falls considerably in shock did not indicate a relaxation of vessels, and he held the chief cause of this to be a diminution of the whole amount of fluid in the vascular system. He accepted the teaching of Henderson as offering an explanation of many clinical facts, especially the condition indistinguishable from shock sometimes caused in the early stages of anæsthesia. He suggested that the sustained high blood pressure which has been described might be due to an interference with the normal distribution of fluids rather than to a contraction of the arteries.

Professor T. G. BRODIE (Toronto) agreed that the vessels are not dilated, and also pointed out that experimental shock was not the same as surgical shock.

Professor MORTON, from the clinical aspect, pointed out that failure of circulation does actually occur.

Dr. IVY MCKENZIE (Glasgow) emphasised the teaching that careful observation of respiration gives the clue to the first signs of shock for the anæsthetist.

Professor HENDERSON, in reply, regarded it as folly to treat shock by venesection. He held that chemical differences in the blood gases influence the blood volume. He hoped that with increased knowledge of colloids and changes in the body we shall be able to solve the problem. Meanwhile therapeutics must deal with maintaining the supply of water to the body.

In the afternoon Dr. ERWIN SMITH (America) contributed a paper on

Cancer in Plants,

illustrated by specimens showing the ravages caused by a tumour on peach and test plants. These tumours occur on any part of the plant and reproduce the structures of that part—e.g., root, stem, or leaf, and consist of vessels, fibres, and parenchymatous cells in varying amount. There is thus no actual overgrowth of any one type of cell, but rather a reproduction of the entire tissue affected. Metastases occur, but these can always be traced to have spread by direct extension from the primary growth. Dr. Smith has isolated from the growths an intracellular bacterium, B. tumefaciens, which inhabits the soil and is very resistant. This has been cultivated as a polymorphic organism, and an injection into the plant is followed by the characteristic tumour growth which resembles the tissue of the inoculated part. Complete excision of the tumour was followed by recovery, but if any portion was left behind recurrence resulted. Such are the facts of a very important contribution to the problem of tumour growth, and in the discussion which they aroused it was recognised that, though in many ways similar to cancer formations, the analogy is not quite complete.

Professor WARTHIN contributed a paper on

The Primary Tissue Lesions in the Heart produced by Spirochæta Pallida.

The condition of syphilitic disease of the heart is, he said, little recognised by most text-books, and is regarded as of rare occurrence. He, however, held that though coarse and usually described syphilitic lesions, e.g., gumma, are rare, other lesions are common. The lesions which he described are patches of pale œdematous material which he found in many syphilitics and even in congenital lesions in young adults. His lantern slides showed spirochætæ in great numbers amongst the œdematous tissue of these parts. He concluded that the spirochæta pallida is readily and frequently found in the heart, and that it can lead to parenchymatous lesions, and aneurysm be followed by dilatation.

This important subject was commented on by the PRESIDENT, who said that many years ago, before spirochæta pallida was thought of, he had drawn attention to the œdematous lesions in syphilis.

Dr. J. SHENNAN (Edinburgh) then gave a paper on

The Etiology of Dissecting Aneurysm,

and illustrated it with lantern slides. In some there existed atheromatous patches in the intima, and these rupturing, allowed blood to escape into the vessel walls; in others there occurred no atheroma in the part concerned, but pathological changes in the media. He threw some light on the question of rupture of the blood back again into the lumen. He held also that miliary aneurysms of the brain are but dissecting aneurysms, a point which met with the approval of the President, who noted the absence of naked-eye changes in the cerebral vessels.

A paper by Dr. A. H. MACCORDICK (Toronto), read by Professor ADAMI, brought forward a new factor concerning

The Rigidity of Calcified Arteries.

It has long been a matter for wonder that "pipe-stem" arteries do not rupture after handling or that ante-mortem coagula do not form on the calcareous plaques which are found to project into the lumen of vessels at necropsies. Dr. MacCordick holds the view that the intra-vitam state of these calcifications does not correspond to the post-mortem state, but that they exist in a form comparable to liquid mortar, and the hardening is a post-mortem phenomenon. He had made observations on limbs immediately after amputation and on bodies examined within one hour of death. Also he had experimented with mixtures of mortar, calcium oxide, and calcium phosphate in different acid and alkali media and with CO_2, for he pointed out that the tissue and fluids are alkaline, but become acid after death, and CO_2 accumulates in the arteries after death. The ulcers found post mortem are the result of contraction of the arteries around these hardening deposits.

TUESDAY, AUGUST 12TH.

The Effect of Radio-active Substances and Radiations upon Normal and Pathological Tissues.

This discussion was opened by Dr. W. S. LAZARUS-BARLOW (London), who, after summarising the work already done, detailed his own observations (including those of his co-workers in his laboratories) into the effects of varying doses of radium on tissues, and on his findings of radio-active substances in cancerous tissues. He pointed out that the outstanding fact resulting from work in the past is that injurious effects may follow great exposure to the various rays that have been used, and instanced Hertwig's observations on the effect of radium upon ova of frogs. It has been shown that the rays exert profound action on chemical combinations—e.g., H_2O and NH_3—can be broken up into their constituents, or these can be synthesised. Also leucocytes, red corpuscles, opsonin, complement, enzymes, &c., are all changed in the direction of degradation. The ferments in the gastric juice, the saliva, and pancreatic juice are all destroyed, but tyrinase, oxidase, and rennin do not appear to be affected. In all these the X rays are the most powerful. In his laboratories they had experimented with much smaller doses than previous workers, and found that if such are insufficient to destroy the cells these may take on modification of functions. He had found as a result of his analysis that radium

exists in most tissues in minute amounts varying from 0·0000000001 mgm. ($\times 10^{-9}$) up to 0·000001 ($\times 10^{-6}$), but this is much increased in cancerous tissues and cancerous metastases, so that they had determined as much as 51 times this amount. At the same time, in the non-cancerous tissues of cancer subjects there is a marked increase (23 times). These had all been estimated by the emanation electroscope, which he described in detail. He next had inoculated radium silicate into the axilla of a mouse and noted a marked diminution in the course of a few weeks, and so deduced that radium disappeared from normal tissues. The observation that gall-stones are always associated with cancer of the gall-bladder led him to investigate the radium content of gall-stones from non-cancerous and from cancerous cases, and he found that whilst a mere trace occurred in non-cancerous cases, in cancer of the gall-bladder there was 85 times as much, and even when the cancer was elsewhere than in the gall-bladder there existed an increase of radium in the gall-stones. A further point was that radium could be removed out of solution in the presence of staphylococcus pyogenes aureus and it became localised in the bodies of the bacteria. Now, since bacteria form the common foci of gall-stones, he suggested the possibility of these concentrating the radium around themselves and so leading to cancer of the gall-bladder. By his experiments on the living nerve muscle preparation and by testing its irritability he concluded that the action of radium in certain amounts was stimulative or beneficial. An ingenious apparatus allowed them to test the action of varying amounts of rays on Oscar's ova, stimulation of which was shown by rapid division. By so doing they determined the existence of an optimum dose which stimulated division of ova. Without venturing to theorise until further evidence had been obtained, he suggested that there was accumulating a certain amount of experimental and clinical evidence which tended to show that in certain doses radium had a stimulating action, the fact of its injurious action in larger doses having been known for a long time.

Professor O. HERTWIG (Grünwald) was unfortunately unable to take part in the discussion, but his paper on

The Effects of Radio-active Substances and Radiations upon Normal and Pathological Conditions

was before the meeting, and we append an abstract thereof. Radium and mesothorium rays, he argued, call forth in the first place changes in the nuclei substances of vegetable and animal cells. On this account the ova and sperm cells, in spite of their very unequal content in protoplasms under equally intensive rays, change to an almost equal degree. A proof hereof is the hindrance to development of the impregnated ovum consequently on the application of the rays to one of the two germ cells before impregnation. By intensive radiation of the sperm cells the parthogenetical development of the ova impregnated through them can be produced. The hypothesis previously adopted that the lecithin in the cells was broken down is therefore no longer to be maintained. Embryonic cells and undifferentiated cells in a condition of proliferation are, since in them the nuclei substance is in excessive proportion to the plasm products, more strongly affected by radio-active rays than fully formed tissues.

Professor WARTHIN added some clinico-pathological observations which he had made on a number of cases of leukæmic and allied conditions which had been treated with X rays. There was in all (save one which developed a leukæmic condition) evidence of destruction of the lymph nodes, so that the abnormal cells disappeared and even the spleen grew smaller, but in the bone marrow an aleukæmic condition resulted, and there was no liberation of cells. He held that this method of treatment, though not curative, offered a prolongation of life for one or two years, but all the cases died suddenly at about this period.

Dr. MOTTRAM (London) had exposed growing roots and ascaris ova to the β and γ rays, and found a most marked action when exposed during the period of active growth. The plant cells divided much more vigorously if exposed during the night, and with ascaris ova the effect was eight times more powerful when exposed during the stage of active mitoses than when at rest. He also noted a change in the process of karyokinesis after exposure, so that there occurred fragmentation of the chromatin. He concluded that the β and γ rays lead to a disturbance of normal growth of both vegetable and animal cells, but that satisfactory treatment may be expected from rays if the tumour be rapidly growing and exhibiting an excess of dividing figures—in fact, the vulnerability varies with the number of dividing figures.

Dr. BASHFORD offered some criticism, but confessed to an ignorance of radium and its action, and then summarised the work of Hertwig on spermatozoa.

Dr. BEKTOEN (London) had carried further his researches into Altmann's granules, and noted these were affected by the action of radium.

Dr. CHARLES RUSS (London) and Dr. HELEN CHAMBERS (London) offered a combined research on

The Susceptibility of Tumours to Rays.

Small pieces of tumour (mouse cancer, rat sarcoma) were exposed to radiation for varying periods and then inoculated into animals and the growth noted. It was found that with a certain amount of irradiation the tumour was destroyed so that no growth ensued, but with lesser exposure a tumour of slower growth than the parent tumour resulted. This characteristic of slow growth was retained in successive generations of subculture—a fact which confirmed some observations of the French school.

Dr. LAZARUS-BARLOW, in his reply, put forth the view that radium treatment is a "possible" treatment, but we must direct our attention to finding the strength that will kill cancer cells and stimulate the connective tissue cells. The clinician must ever bear in mind that in killing one disease he must not produce another. He further offered these experiments as a justification of his earlier work which had been so adversely criticised, and, in fact, to take the place of these earlier experiments.

SECTION XI.—NEUROPATHOLOGY.

WEDNESDAY, AUGUST 6TH.

President, Sir DAVID FERRIER (London).

The proceedings of this section opened in the afternoon with the presidential address.

The PRESIDENT began by making sympathetic reference to the famous names in English neurology of Dr. Hughlings Jackson and Sir William Broadbent, who had been prominent when last the International Congress met in London 32 years ago. He also greatly regretted the inability of Sir William Gowers to be present owing to the state of his health. In welcoming to London the representatives of the world's neurology, the President contrasted the neurology of to-day with that of 1881. He referred to the phenomenal progress that had been made during the intervening years. In 1881 the doctrine of cerebral localisation was still being discussed, and with some acerbity; now its principles were universally accepted. Allusion was made to the remarkable advances in our knowledge of the structure of the cerebral cortex, the basal ganglia, infective and toxi-infective conditions of the central nervous system, and so on. It was pointed out that while a great part of this advance was the outcome of the application of experimental methods, clinical investigation had taught us just as much, if not indeed more, and the President made reference to those brilliant clinicians of to-day and of other days by whose labours neurology had so notably profited.

Dr. S. AUERBACH and Dr. E. GROSSMANN (Frankfort) contributed a paper on

The Operative Treatment of Epilepsy,

in which it was stated that by simple decompression, more particularly in young subjects, they had obtained good results in idiopathic epilepsy, as well as in Jacksonian epilepsy. They considered that operative interference was justified when the patient was steadily deteriorating, physically and mentally, in consequence of the long continuance of his disease. They referred to various cases where an interval of as long as six years, without attack, had followed on operation.

The paper was discussed by Dr. G. ANTON (Halle), Dr. L. POUSSEPP (St. Petersburg), Dr. M. BIRO (Warsaw), Dr. PETREN (Upsala), and Dr. M. ROTHMANN (Berlin).

Dr. C. L. DANA (New York) read a paper on Little's Disease, with choreic and athetoid movements, where

pathological changes in the cell lamination of the precentral gyrus and in the regio subthalamica were found.

Dr. B. SACHS (New York) read a paper on a case of Successful Removal of a Tumour of the Gasserian Ganglion, with special reference to the difficulties of diagnosis, which was discussed by Dr. AUERBACH and Dr. A. SAENGER (Hamburg).

An interesting case of Aneurysm of the Posterior Inferior Cerebellar Artery was described, with lantern slides, by Dr. H. HAIKE (Berlin) and Dr. F. H. LEWY (Breslau).

Dr. PURVES STEWART (London) exhibited a coloured model to illustrate the cutaneous root areas of the human body.

THURSDAY, AUGUST 7TH.

At the morning meeting a discussion was opened on

The Symptoms of Cerebellar Disease and their Significance.

Dr. J. BABINSKI (Paris) laid stress on the difficulties which surround the problems of cerebellar function. The close anatomical and physiological relationships between the cerebellum properly so-called and the labyrinth often made an exact localising diagnosis difficult, and it was frequently hard to distinguish between the two sets of symptoms. Such symptoms as nystagmus, vertigo, or titubation could not always be determined categorically as being of one or other origin. The conditions of dysmetria, asynergy, and adiadochokinesis, however, appeared to Dr. Babinski to be almost certainly derived from disturbance of the true cerebellar mechanism. He believed, also, that cerebellar catalepsy, so-called, was a genuine cerebellar phenomenon. The latter part of his paper was devoted to the question of cerebellar localisation.

Dr. M. ROTHMANN (Berlin) discussed, mostly from the experimental viewpoint, the possibility of localisation in the cerebellum. He held that certain portions of the cerebellar cortex were associated with disturbances in the trunk, head and neck, throat, extremities, and so on, respectively. The experimental results obtained in dogs were more definite and more constant than those obtained in apes. By analogy a localisation in the cerebellum of man should be discoverable, but he admitted that hitherto the results obtained were conflicting and unsatisfactory. A distinction could be drawn between disease of the vermis and disease of the cerebellar hemispheres.

Dr. GORDON HOLMES (London) distinguished between diffuse and local lesions, and thought that the latter were more likely to show hypotonia as one of the symptoms than the former. He deprecated further use of the term "ataxia," which should be analysed into dysmetria or asynergia, as the case might be.

Dr. R. BÁRÁNY (Vienna) showed how great were the differences obtained by experiment in various animals, and held that localisation in rabbits, for instance, was quite different from what it was in man.

The discussion was continued by Dr. ANTON, Dr. L. VON FRANKL-HOCHWART (Vienna), Dr. J. S. RISIEN RUSSELL (London), Dr. M. NONNE (Hamburg), Dr. S. A. KINNIER WILSON (London), Professor L. BRUNS (Hanover), Dr. ALLEN STARR (New York), Dr. H. OBERSTEINER (Vienna), and others.

Among the papers discussed at the afternoon meeting were: The Examination of the Vestibular Apparatus and its Significance in the Diagnosis of Cerebellar Disease, by Dr. BÁRÁNY; the Relation between Spasticity and Paralysis in Spastic Paralysis, by Dr. O. FOERSTER (Breslau); the Symptoms and Pathology of Disease of the Optic Thalamus, by Dr. GORDON HOLMES; and the Posterior Longitudinal Fasciculus, by Dr. L. MUSKENS (Amsterdam).

FRIDAY, AUGUST 8TH.

The subject for discussion at the morning session was

Motor Aphasia, Anarthria, and Apraxia.

Professor DEJERINE (Paris) was unavoidably absent, and his *rapport* was read by Dr. J. JUMENTIÉ (Paris). The following are the more important of Professor Dejerine's conclusions. The terms "motor aphasia" and "anarthria" ought to be retained. "Broca's aphasia" signifies loss of the motor images for articulation, with involvement of *le langage intérieur*, while in "pure motor aphasia" these motor images are not lost and *le langage intérieur* is not impaired. The lenticular nucleus plays no direct rôle in the production of anarthria. Motor aphasia is produced by lesions of the anterior speech centre, which certainly includes the posterior end of the third frontal convolution, and also, perhaps, the anterior portion of the island of Reil. Lesions of the third left frontal convolution without aphasia are to be explained on the existence of an unrecognised transient motor aphasia, or as occurring in ambidextrous individuals or in congenitally left-handed subjects who have become right-handed by education. Cases of motor aphasia without lesion of the third left frontal can be shown to be due to subcortical lesions cutting the fibres underlying the third left frontal.

Professor H. L. LIEPMANN (Berlin) discussed the question of apraxia and its relation to aphasia. He emphasised the localising value of apraxia and demonstrated some of the preparations of his original cases.

Among the subsequent speakers were Dr. H. CLAUDE (Paris), Dr. KINNIER WILSON, Dr. VON MONAKOW (Zürich), Dr. I. H. CORIAT (Boston, U.S.A.), and Dr. A. HEVEROCH (Prague).

In the afternoon a clinical and pathological meeting was held at the National Hospital for the Paralysed and Epileptic. Patients illustrating the various forms of family and hereditary diseases of the nervous system were shown by Dr. F. E. BATTEN, Dr. F. M. R. WALSHE, Dr. H. H. TOOTH, Dr. E. A. COCKAYNE, Dr. A. F. HERTZ, Dr. E. G. FEARNSIDES, Dr. J. TAYLOR, Dr. P. W. SAUNDERS, Dr. H. G. TURNEY, Dr. J. COLLIER, Dr. PURVES STEWART, Dr. E. FARQUHAR BUZZARD, Dr. W. HARRIS, Dr. H. DRINKWATER, and Mr. PERCY SARGENT.

A pathological demonstration of pellagra, progressive lenticular degeneration, third ventricle tumours, &c., was given by Dr. KINNIER WILSON.

Dr. T. WEISENBURG (Philadelphia) showed cinematograph films exhibiting various forms of nervous disease.

Dr. BABINSKI and Dr. A. BARRÉ (Paris) showed films exemplifying cerebellar disease, hysteria, &c.

SATURDAY, AUGUST 9TH.

The subject set down for discussion in the forenoon was

The Relation of the Myopathies.

Professor W. G. SPILLER (Philadelphia) divided the myopathies into two main groups, the congenital and the acquired. Each in turn might be subdivided into cases where the muscles were primarily involved with integrity of the nervous apparatus, and those in which the nerve cells of the peripheral neurons were affected. Combinations of the two might occur. He adopted Batten's classification of the myopathies as follows: (1) The simple atrophic type—myatonia congenita or amyotonia congenita; (2) the pseudohypertrophic type; (3) the juvenile type (Erb); (4) the facio-scapulo-humeral type (Landouzy and Dejerine); (5) the distal type (Gowers); (6) the myotonia atrophica type; (7) mixed and transitional types; and (8) the true hypertrophic type. He held that these types were useful for didactic purposes, but that they should not be too sharply differentiated. The more uncommon of these types were discussed by the *rapporteur*.

Dr. F. E. BATTEN (London) said the different types of myopathy could not always be sharply divided. He gave a lantern demonstration illustrative of different forms of myopathy, mostly as it occurs in children.

In the absence of Professor OPPENHEIM (Berlin) his report on the subject under discussion was taken as read.

Among the subsequent speakers were Dr. SACHS, Dr. GORDON HOLMES, Dr. BRUNS, Dr. FOERSTER, and Dr. CLAUDE.

Dr. G. BOURGIGNON and Dr. LAUGIER (Paris) contributed a paper on Apparent Differences in the Polar Reactions and in the Localisation of the Closing Contraction in Thomsen's Disease and the Reaction of Degeneration.

Among the communications of the afternoon session were the following: Myasthenia Gravis, by Dr. ALLEN STARR; the Neurological Principles Underlying the Method of Muscle Group Isolation in the Treatment of Spasticities, by Dr. S. I. SCHWAB (St. Louis); the Nervous Symptoms of Cervical Rib, by Professor PIERRE MARIE, Dr. O. CROUZON, and Dr. CHATELIN (Paris); and the Fixation of Poisons in the Nervous System, by Professor GUILLAIN (Paris).

MONDAY, AUGUST 11TH.

At the afternoon session among the communications read were the following: Diseases of the Optic Tract, by Dr. SAENGER; Remarks on the Pathological Anatomy and Pathogeny of Tabetic Amyotrophy, by Dr. BARRÉ; Syphilitic Amyotrophy of Medullary Origin, by Dr. A. LÉRI and Dr. FOIX (Paris); and Tabes and its Treatment, by Dr. H. JAWORSKI (Paris).

TUESDAY, AUGUST 12TH.

The subject set for discussion at the morning meeting was

The Nature of the Condition termed Parasyphilis.

Dr. M. NONNE (Hamburg) took a wide view of the whole subject of so-called parasyphilis. He discussed the question of latent syphilis in the relatives of tabetics and general paralytics. In the members of 82 families, including patients and apparently normal individuals, by the Wassermann reaction a positive result was obtained in no fewer than 64 per cent. It was now known that animals could be infected from the blood of individuals who themselves showed no sign of syphilis. He referred to Krafft-Ebing's attempt to inoculate general paralytics with syphilis, and agreed that his failure meant that these paralytics were immune to syphilis. Guinea-pigs had been successfully inoculated with blood taken from general paralytics, and the spirochæta had been subsequently found in the guinea-pigs' testes. For these and many other reasons he believed that cases of tabes and of dementia paralytica were actively syphilitic. He held, therefore, that the expression "parasyphilis" should be abandoned. The condition, however, was clinically distinguishable by means of the so-called "four reactions" from ordinary syphilis of the interstitial and supporting tissues. He could not agree that the comparative failure of antisyphilitic treatment in these cases was a criterion for distinguishing them from the other group.

Dr. F. W. MOTT (London) said that in his experience the cases which subsequently developed tabes and general paralysis were more often than not characterised by indefinite or very mild signs of primary infection, secondary symptoms, and tertiary manifestations. He believed that the sufferers from parasyphilis had a natural or acquired immunity, or partial immunity, owing to widespread racial syphilisation having eliminated in time a large proportion of those who would have the disease in a virulent form, or they possessed an immunity due to parental syphilis. He knew that syphilitic infection was followed by very different results in different individuals. He thought it extremely probable that there might be an intracellular phase of the spirochæta. It was certain from recent investigations that the spirochæta could be recovered from the brains of general paralytics. In the condition termed parasyphilis he concluded that two factors were at work in producing degeneration of the neurons: (1) the syphilitic organism or its toxin, which has been latent for many years in its effects upon the nervous system becoming active, causing an exhausting specific reaction of the neurons; and (2) non-specific exhausting conditions inducing excessive active metabolism.

The discussion was continued by Dr. LÉRI, Dr. WOLLENBURG (Strassburg), Dr. E. DE MASSARY, and Dr. LEREDDE (Paris.).

Dr. HENRY HEAD (London) referred to a paper by Dr. MCINTOSH, Dr. FILDES, Dr. FEARNSIDES, and himself, about to be published in *Brain*, in which it was maintained that parasyphilis of the nervous system was a purely clinical conception. Parasyphilitic states were peculiarly liable to arise after mild syphilitic infection. He stated that parasyphilitic manifestations were expressions of the reaction of hypersensitised tissues—that is to say, during the previous stages of infection the tissues have been so altered that they reacted more violently to a smaller dose of the spirochæta or its toxins.

Dr. H. P. SWIFT (New York) said that at the Rockefeller Institute Hospital he had been experimenting for the past two years in the treatment of parasyphilitic patients by the injection of the serum of patients treated intravenously with salvarsan into the cerebro-spinal fluid directly. The technique was as follows: the patient was given an intravenous dose of salvarsan, and one hour later his blood was drawn off, carefully centrifugalised, and diluted to 40 per cent. with saline. It was then heated for half an hour at 56° C., which rendered it sterile and at the same time greatly increased its spirochæticidal effect. The patient was then lumbar-punctured and the fluid withdrawn until its pressure was only 30 mm. A syringe was connected and the treated serum allowed to run in by gravity up to 30 c.c. or more. An injection was given every two weeks. In 70 per cent. of patients thus treated the Wassermann reaction became negative or weakened; in only 3 of 32 cases had no beneficial result accrued.

Other speakers included Dr. FOERSTER, Dr. SACHS, Dr. J. DONATH (Budapest), and Dr. LEWY.

SECTION XIII.—DERMATOLOGY AND SYPHILIGRAPHY.

TUESDAY, AUGUST 12TH.

President, Sir MALCOLM MORRIS.

A discussion was opened on

The Vaccine Treatment of Diseases of the Skin.

Professor T. C. GILCHRIST (Baltimore) considered that collectively vaccines had done more harm than good owing to the too promiscuous use of these remedies. He was strongly opposed to the commercial vaccines, which often contained nine or ten varieties of organisms. Even in the most skilled hands there were many failures. In a personal experience of six years he had had about an equal proportion of good and bad results. Vaccines were of great use in the chronic and subacute staphylococcic lesions of the skin. He had obtained good results in certain forms of eczema, rosacea, and acne vulgaris. In the latter disease he believed in the acne bacillus, but it was unwise to rely on vaccine treatment alone; local and general measures must be also employed. In three cases of blastomycosis good results had been got by a filtrate of the organism. He preferred an autogenous vaccine, but allowed that stock preparations were useful in certain known cases. He believed an investigation of the flora of the fæces would assist in curing some of the more obscure skin diseases.

Professor A. WHITFIELD (London) referred to the question of the opsonic index. He did not think it was always a good clinical guide, but was of great value in enabling one to decide which out of a number of organisms obtained by culture was responsible for the condition. He did not believe in the vaccine treatment of rosacea, as it could be so successfully managed by medical measures. Simple furunculosis always got well with vaccines; he excluded from this class boils on the nape of the neck, which were generally due to some local irritation, a collar, &c., and were associated with comedones. Excellent results could be obtained in the more acute streptococcal infections, like erysipelas. In acne he held that large doses of the microbacillus were indicated, and he gave from 125 to 250 millions. Tubercular infections were best treated with the old tuberculin, beginning with small doses and working up. Here, also, other forms of treatment should be employed in addition to the tuberculin.

Dr. LASSUEUR (Lausanne) stated that in the vaccino-therapy of furunculosis, folliculitis, and of acne they had at their disposal a simple, painless, and elegant method. In furunculosis and folliculitis the results obtained were remarkable, and superior to other modes of treatment. Sometimes excellent results were obtained in acne, but more often only a passing amelioration, and for this reason he also employed exfoliating pomades and X rays in this disease.

Dr. R. VARNEY (Michigan) considered the opsonic index of great importance. Failures were most often due to the use of commercial suspensions, and were less frequent when autogenous vaccines were employed. If the first or second dose failed to effect any improvement, it was of little use to continue vaccine treatment. Pruritus ani ought not to be treated by vaccines, as it was caused by some definite change within the sphincter.

Dr. J. M. H. MACLEOD (London) had had good results in furunculosis. His experiences with the acute streptococcal infections such as erysipelas were disappointing, but might have been due to the employment of a stock vaccine. He was not convinced that the acne bacillus was the cause of the comedo, and he had only obtained benefit in cases of acne when there had been pustulation.

Dr. JANOWSKI (Prague) agreed with Dr. Gilchrist's findings but had had better results with lupus. He used a mixed vaccine in furunculosis.

The proceedings of the section terminated with a vote of thanks to the governors of St. Thomas's Hospital. Sir MALCOLM MORRIS also expressed cordial thanks to those who had done the work of the section, Dr. MacLeod, Dr. J. H. Sequira, Dr. H. Leslie Roberts, and Dr. A. M. H. Gray. Dr. Cranston Low had been prevented by illness from being present. Many subjects had been discussed at the meetings, but of all these the question of venereal disease and its extermination was the most important. In future years he thought it would be remembered that this Congress had been the means of bringing this subject to the notice of the Governments of the world.

SECTION XVI.—OTOLOGY.

WEDNESDAY, AUGUST 6TH.

President, Mr. ARTHUR CHEATLE (London).

The PRESIDENT, in a brief address, welcomed the visitors and contrasted the position of otology of to-day with that when the Congress last met in London, and touched upon the important work and progress that had been made during the intervening period.

Professor M. J. MOURET (Montpellier) read a paper on the Surgical Anatomy of the Mastoid Region. The paper dealt with the topographical division of the external (operative) surface and the relations of these divisions to the deeper parts—the antrum, the mastoid cells, the facial nerve, the lateral sinus, the semicircular canals, and the cranial cavity. The paper was profusely illustrated.

Professor P. JACQUES (Nancy) read a paper on the Pharyngeal Drainage of an Otogenous Abscess.—This was discussed by Professor MOURE (Bordeaux).

Professor HOLGER MYGIND (Copenhagen) read a paper entitled "Secondary Suture after Simple Resection of the Mastoid Process." He described in detail the process he adopted, the object of which was to shorten the time required in the healing process of cases of simple resection of the mastoid for acute osteitis. The average duration of the cases not complicated with cerebral abscess, sinus thrombosis, or meningitis, treated in the Ear and Throat Department of the Copenhagen Commune Hospital being 74 days when the after treatment was by the filling up of the osseous cavity with granulations, whilst the corresponding figures for cases of secondary suture which healed, practically speaking, *per primam* was only 20 days.

The proceedings for the day concluded with a paper by Dr. LOUIS BAR (Nice) on Osteomyelitis Rocher.

THURSDAY, AUGUST 7TH.

A discussion on the

Pathology of Acquired Deaf-Mutism

was opened by Professor ALFRED DENKER (Halle), who gave a lantern demonstration of his pathological findings in the internal ear of persons so affected, and by Professor MYGIND, who contributed a compendium of reports, published in the literature, of the examination of petrous bones of deaf-mutes with acquired deafness. The conclusion he had arrived at was that the pathology of deaf-mutism acquired after birth was really the pathology of infantile labyrinthitis which had come to its final stage and caused lasting deafness.

The paper was discussed by Dr. CASTEX (Paris) and Professor UCHERMANN (Norway). The latter suggested that the pathology was not "really" but "chiefly" the pathology of labyrinthitis.

Professor GUSTAV BRÜHL (Berlin) demonstrated photographs and microscopical specimens of the pathology of the internal ear in deaf-mutism.

Professor WERNER KÜMMEL (Heidelburg), Professor GUSTAV ALEXANDER (Vienna), Dr. J. S. FRASER (Edinburgh), Dr. W. JOBSON HORNE (London), and Dr. SPIRA (Krakau) also took part in the discussion, and the openers replied.

The proceedings concluded with a paper by Professor KÜMMEL on Subjective Noises in the Ear. He said the patient must be convinced that the subjective noises were a normal phenomenon, and that they might be observed by everyone capable of sufficient self-observation. Deafness, quite naturally, made this observation much more intense and obtrusive.

Afternoon Session.

Professor GHERARDO FERRERI (Rome) read a paper on the Surgical Treatment of Chronic Suppuration of the Ear.

The PRESIDENT said he formerly practised the removal of the ossicles in chronic suppuration. He now regarded that procedure as a waste of time, although in some cases the ossicles might be left with safety at the time of doing the mastoid operation.

Dr. E. B. DENCH (New York) was opposed to ossiculectomy. In a very small percentage of cases did he find the hearing impaired after the radical mastoid operation.

Dr. MYGIND thought that surgeons were too optimistic, at the same time they must be optimistic as regards the hearing after the radical mastoid operation.

The discussion was continued by Dr. JANSEN (Berlin), Mr. C. E. WEST (London), Professor G. ALEXANDER (Vienna), Mr. G. J. JENKINS (London), and Professor H. NEUMANN (Vienna), and Professor FERRERI replied.

Professor E. V. SEGURA (Buenos Aires) read a paper on Some Points in the Évitement of the Petro-mastoid.

A joint paper by Dr. J. GORDON WILSON (Chicago) and Dr. F. H. PIKE (New York) was read by the former. The paper was entitled "The Mechanism of Labyrinthine Nystagmus and its Modification by Lesions in the Cerebellum and Cerebrum, an Experimental Investigation."

The proceedings concluded with a paper by Dr. ROBERT BÁRÁNY (Vienna) descriptive of his experiences of the symptoms-complex of the ear which he had described.

FRIDAY, AUGUST 8TH.

The morning session was occupied with a discussion, conjointly with Section XV., on Salvarsan in the Ear, Nose, and Throat Disease, and the report will be found under Section XV. in our issue of August 23rd (p. 564).

Afternoon Session.

When the proceedings of the Section of Otology were resumed in the afternoon the session was occupied with the subject of Otosclerosis. The first paper was by Professor GUSTAV BRÜHL (Berlin), who illustrated it with lantern demonstrations of preparations showing the pathology of otosclerosis.

Papers and demonstrations on the same subject were contributed by Dr. ALBERT A. GRAY (Glasgow), Dr. NEUMANN, Mr. G. J. JENKINS (London), and Dr. J. MOLINIÉ (Marseilles).

SATURDAY, AUGUST 9TH.

The morning session was opened with a discussion on Non-suppurative Disease of the Labyrinth, the reporters being Professor ALEXANDER and Professor VON EICKEN (Giessen). Professor ALEXANDER gave a demonstration of micro- and macroscopic preparations. Dr. NAGER (Zürich) gave a demonstration of histological specimens of influenzal labyrinthitis. Dr. DENCH read a paper based upon two cases of sudden ablation of the labyrinthine function to the caloric test with operative findings.

The section did not sit during the afternoon.

MONDAY, AUGUST 11TH.

In the morning the section held a joint discussion with that of Rhinology and Laryngology. The subject for discussion was

The Special Treatment of the Throat, Nose, and Ear during the Active Stages of Certain Infectious Fevers,

namely, scarlet fever, measles, German measles, mumps, influenza, typhoid fever, whooping-cough, small-pox, chicken-pox, erysipelas, anterior poliomyelitis, and cerebro-spinal meningitis (diphtheria excluded). The subject was introduced by Dr. E. W. GOODALL (London) and Dr. VICTOR DELSAUX (Brussels).

Dr. GOODALL considered the subject under four heads—namely: (1) a description of the morbid conditions of the fauces, nose, and ear in the diseases mentioned; (2) the results, temporary and permanent, local and general, of these morbid conditions; (3) the class and proportion of cases in which these conditions occur; and (4) the treatment which was discussed under two headings: (*a*) local, such as local applications and removal of adenoids, and (*b*) general, by serums and vaccines. Local applications Dr. Goodall had found efficacious in the majority of cases, as shown by the following figures. Of 303 cases of scarlet fever which were discharged directly from the Eastern Hospital during the period Jan. 1st, 1912, to the middle of February, 1913, in only one was otorrhœa still present; of 421 cases of measles, in 8 there was persistent otorrhœa, and in 2 of these certainly the otitis was of long standing; of 90 cases

of whooping-cough, in only 1 was there otorrhœa when the patient left the hospital. Again, during the 10 years 1900 to 1909 there were 153,607 cases of scarlet fever treated in the hospitals of the Metropolitan Asylums Board. In 20,349 of these there was otitis media (13·1 per cent.), but only in 920 cases was there a mastoid abscess or disease of the temporal bone (0·6 per cent.); that is to say, only 4·5 per cent. of the otitis cases resulted during the time they were detained in hospital in the spread of inflammation beyond the middle ear. He added that the practice in most of the fever hospitals was to keep the aural cases under treatment till the discharge had ceased, but if this event had not happened before the end of 12 weeks then the patient was allowed to leave the hospital. Of course, in such cases advice was given to the patient or to the friends to apply for further treatment to a medical man or hospital. Within recent years, Dr. Goodall went on to say, it had been advocated in certain quarters that if an otorrhœa persisted for more than six weeks the antrum and, if necessary, the mastoid cells should be opened up, or even the complete operation performed, even if there was no evidence that these structures were involved. Dr. Goodall was of the opinion that such a proceeding was not justifiable except in the most chronic cases, and that a prolonged course of treatment on the lines already indicated should be carried out before resort was had to operation, and he believed that in this opinion he was supported by all his colleagues in the Asylums Board's service.

A large number of the members of the conjoint section discussed the subject and concerned themselves for the most part with the question whether a mastoid operation should be performed at an earlier date and more frequently in cases of acute otitis media associated with scarlet fever. It was generally remarked that the history of a large number of the cases of chronic suppuration of the ears which had to be dealt with at the special hospitals for the ear, nose, and throat, and in the special departments of the general hospitals was that of scarlet fever or measles or of some infectious fever earlier in life. There was not evidence to show whether these cases had been under treatment in the fever hospitals, nor was there any evidence forthcoming even if they had been treated in those hospitals of the condition of the ears when they left. The general opinion of those who took part in the discussion seemed to be that operative treatment on the mastoid would have been the means of preventing the chronicity of many cases.

Dr. GOODALL, in replying to the question of early operation in cases of otitis media resulting from scarlet fever, said that formerly he did operate early but often found nothing in the antrum, and had therefore not felt justified in continuing that line of treatment. He had given exact statistical information of the results of the treatment that he had adopted, but the otologists had not responded by giving the same in support of their contention that scarlet fever left lasting ear disease through the operation not being performed. The following motion was put from the chair and was carried :—

> It is the opinion of the members of the Section of Otology, Rhinology, and Laryngology of the Seventeeth International Congress of Medicine, London, 1913, that it would be greatly to the advantage of the community if experts in otology, rhinology, and laryngology were attached to special hospitals for the treatment of epidemic diseases.

The Section of Otology resumed its proceedings in the afternoon, when several interesting specimens and models of various parts of the organ of hearing, which had been on view in the museum, were demonstrated by the exhibitors.

TUESDAY, AUGUST 12TH.

Professor CLARENCE JOHN BLAKE (Harvard University) and Professor GIUSEPPE GRADENIGO (Turin) contributed papers to a discussion upon

Climatic and Occupational Influences in Diseases of the Ear.

In the unavoidable absence of Professor Blake his report was read by Dr. REIK (Boston).

The influence of normal climatic changes acting directly upon the ear were slight, in the opinion of Professor Blake, and was principally exerted through the medium of such associated organs as the nose and nasopharynx or in participation with changes in a systemic condition. The influence of the artificial climatic conditions of trades and occupations was much more pronounced and operated through the same media. Much was being done to abolish prejudicial conditions by the welfare work of the various trades which was growing in vigour and in value with the increase in public appreciation of its importance; but there was one prejudicial influence, the outcome of mechanical industry which was the most injurious of all, especially affecting the organ of hearing and sometimes secondarily the organ of equilibration, which had been almost the last to receive welfare consideration—that was the deleterious effect produced by unnecessary noises. In mining operations, in addition to the exposure to the superheated air, saturated with moisture and often laden with foul gases, the miners were exposed to the consequences of detonation occurring in circumscribed spaces without possibility of diffusion, with injury resulting occasionally to the sound-transmitting apparatus. Professor Blake drew attention to the sensory manifestations of intra-aural circulatory changes in mountain climbers and aviators. In conclusion, Professor Blake pleaded, as a part of preventive medicine, for the furtherance of such welfare work as shall decrease the unnecessary noises of traffic and of manufactures.

The PRESIDENT also spoke about ear affections experienced by aviators, and said it was remarkable that a pilot should be able to obtain his certificate without undergoing a medical examination.

Dr. JOBSON HORNE discussed the penalties to hearing occasioned by the application of modern science to modern life. He referred to the telephone, aviation, and modern street traffic. The injurious effects in all three were due to suddenness of unexpected noises, and in aviation the sudden climatic changes in making rapid ascents. The dizziness experienced by aviators he attributed to the vibration. Fortunately, all these influences were in some measure preventable, and would disappear with improved machinery.

The discussion was continued by Dr. BLEGVAD (Copenhagen), Dr. DAN MACKENZIE (London), Professor VON EICKEN (Giessen), Mr. SYDNEY R. SCOTT (London), Mr. H. CHILD (Exeter), Dr. C. J. KOENIG and Dr. A. MAURICE (Paris), and Dr. REIK, and Professor GRADENIGO replied.

The remainder of the day was given up to the reading of papers, which included one by Dr. G. COULET (Nancy) based upon two cases of Suppurative Otogenous Meningitis which had been cured by surgical interference, together with lumbar punctures. The object of the contributor was to combat the completely pessimistic view taken of otitic meningitis, and he was supported by those who took part in the discussion.

SECTION XIX.—FORENSIC MEDICINE.

MONDAY, AUGUST 11TH.

President, Professor HARVEY LITTLEJOHN (Edinburgh).

Alcohol and Degeneracy.

A discussion on this subject was opened by Dr. BENNO LAQUER (Wiesbaden). He said that England was the oldest country, with the exception of the United States, engaged in combating alcoholism and its degenerative effects on man; further, those countries were to the fore in research on the subject. He criticised the recent literature on the subject, and distinguished between the acute and chronic changes which took place in the tissues, more particularly as they affected hereditary processes. He remarked upon the connecting links with eugenics as expressed in the views of Forel, Francis Galton, and Karl Pearson. He referred to the work of Lundborg, the Swedish neurologist, who had traced the alcoholic origin of the degeneracy of a rural community of 2800 people, and he touched on the controversy between Sir Victor Horsley and Professor Karl Pearson. In speaking of the clinical treatment and prophylaxis of chronic alcoholism, he advocated the establishment in every country of an institute for research as to the effects of alcohol, which institute might also form a centre of eugenics.

Professor J. GLAISTER (Glasgow) was of opinion that when a man addicted to alcohol, which tendency had appeared in more than one generation, was married to a neurotic woman, degeneracy in the offspring was marked, but if the wife was a robust woman the degeneracy was less marked. In the case of originally robust parents who subsequently became alcoholic, the degeneracy in their later children was progressive.

Dr. C. W. SALEEBY (London) drew attention to the work of Professor Stockard, of New York, who had proved the occurrence of alcoholic degeneracy by long and carefully

controlled breeding experiments on guinea-pigs, and to the microscopic observations of Dr. Bertholet, of Lausanne, by which he had been able to demonstrate the degenerative action of alcohol upon the ova in the female as he had previously shown for the germ cells in the male. Dr. Saleeby considered that such researches ought to be more carefully considered by eugenists; he thought that the evidence against alcohol as a racial poison, under certain conditions yet to be defined, was now complete.

Dr. F. J. SMITH (London) was inclined to take the general experience of thousands of years amongst populations numbering many thousands of millions rather than the investigations of a few workers extending over but very few years, as indicating the more probable effects of alcohol, either temporary or more permanent. From this point he had no doubt that the essential influence on the race and on heredity was in reality the old question of the moderate use *versus* the immoderate abuse of alcohol, and in the latter category he was inclined to put the massive doses with which Todd and his followers in the first half of the nineteenth century had treated acute disease. He was glad of the opportunity of stating that the difference between Sir Victor Horsley and Professor Karl Pearson was, in his opinion, one of mathematics and logic, and not of whether alcoholism was good or bad; for they both knew it was bad, but Professor Karl Pearson objected, and rightly so, to Sir Victor Horsley's method of proving that it was so.

Dr. LAQUER replied, and with the passing of a resolution in support of experiments upon animals the morning session closed.

In the afternoon Dr. W. H. WILLCOX (London), in reading a paper on

Veronal Poisoning,

after giving some details of the chemical properties of the drug, said that veronal was undoubtedly a powerful hypnotic, and its exceedingly potent action was not at first fully appreciated by the medical profession and still less so by the public. It had been spoken of as "a sleep-producing drug of a relatively harmless character," and as "one of the quickest, safest, and most reliable hypnotics." Dr. Willcox pointed out that these statements referred to therapeutic doses, but he feared that it had sometimes been assumed that because veronal was harmless in therapeutic doses, it might be given in doses considerably in excess of this. He maintained that it was most important that medical practitioners, and the public should realise that the therapeutic dose of veronal could not be exceeded with safety except in very special cases. The therapeutic dose of veronal for an adult was given in the British Pharmaceutical Codex for 1907 as 5 to 15 grains, while in the latest edition of that work, 1911, the dose was given as 5 to 10 grains, an indication perhaps that the potent action of the drug had not been fully recognised in 1907. Dr. Willcox said that toxic symptoms might occur after the administration of veronal, and these might be the result of (1) a special idiosyncrasy causing a susceptibility to a small or moderate dose; (2) an excessive dose having been taken; or (3) repeated small doses, as in the veronal habit. He related the symptoms which present themselves in poisoning by veronal, and said that owing to the rise of temperature which frequently occurred, accompanied by physical signs in the lungs, it was quite easy for a severe case of veronal poisoning to be mistaken for pneumonia. In cases of renal disease veronal was much more toxic than with normal patients; also it was important that constipation should be avoided when veronal was given, since a cumulative action might occur if veronal were given continuously in therapeutic doses. He remarked that cases of death had been recorded after taking veronal, even with such small doses as 10 grains, but he thought that in these cases probably other factors were present, and that death was not entirely due to veronal. He considered that in a healthy adult it might be taken that a dose of about 50 grains would be dangerous and might be regarded as an average minimum fatal dose. Undoubtedly tolerance might be established in some cases, but a great tolerance comparable to that in morphine and cocaine did not take place. In discussing the post-mortem appearances from veronal poisoning, he said that there were no signs characteristic of that mode of death. They were those of death from gradual heart failure complicated by œdema and hypostatic congestion of the lungs. Dr. Willcox then proceeded to give a detailed account of the toxicological analysis required for the recognition of the drug, and gave the clinical and post-mortem records of several cases.

The paper was briefly discussed by the PRESIDENT and Professor F. STRASSMANN (Berlin), the former dwelling on the great difficulty of identifying veronal in the organs of the body.

Sir JOHN COLLIE (London) read a paper on

Malingering,

in which he pointed out that the reason for the prominence which the matter had now attained was that many of the Approved Societies under the National Insurance Act had taken fright and become obsessed with the idea that excessive sickness claims from this cause must inevitably lead to serious financial embarrassment. On the other hand, there were those who emphatically denied any tendency on the part of the working classes to exaggerate or feign disease. A malingerer, he said, had been defined as "one who feigns sickness, or who (deliberately, knowingly, and wilfully) induces or protracts an illness with the object of avoiding duty, claiming money compensation, exciting sympathy, or from any other reason." Sir John Collie maintained that the out-and-out malingerer who filled this definition was as rare as he was interesting, and his unmasking should not be difficult. The process of accumulating data to expose fraudulent cases often resolved itself into a battle of wits between the medical examiner and the so-called patient. Fortunately, in most cases it was a contest between knowledge and ignorance, and in such matters the ignorant were very heavily handicapped. He gave brief accounts of cases illustrative of these points. Proceeding, he remarked that in the outcry as to the unexpected demands upon the sickness funds much had been attributed to female workers. Those who asserted thoughtlessly that malingering was rampant and mainly confined to women had lost sight of the necessity of having ample data before right conclusions could be drawn, and also of the fact that as the same results often proceeded from different causes there was a liability to attribute a result to the wrong cause. He pointed out that an infinitely larger class than the out-and-out malingerer would be found to consist of those who were by no means intentionally dishonest, but who nevertheless remained long on the sick list as a result of an introspection which savoured of cowardice, a bad heredity, or a pessimistic temperament. Of these not a few came seriously near to fraud. It was in the proper supervision of this class that millions of pounds could be saved per annum by a strong, resolute, and conscientious stand on the part of medical men. The problem frequently presented itself for solution: Was the patient a wilful malingerer, or was he the victim of the psychical conditions consequent upon an accident or illness? Sir John Collie concluded by saying that it was a mistake to think that all malingering was the outcome of deliberate wickedness. Because a man did not return to work as soon as it was thought he ought, it was harsh to assume that he was a shammer, and that he should be branded as a wilful malingerer. Such a view was not only unjust, but it demonstrated a poor knowledge of human nature. Great allowance had to be made for the personal equation. They could not always fully appreciate the mental processes taking place in each individual mind, and so long as unregenerate human nature was being dealt with, so long was it rendered compulsory to weigh all the circumstances of each case if fairness was to be observed. The mental attitude of workmen with regard to recovery after sickness was a very complicated one, and it was only by studying and fully understanding it that such cases could be successfully dealt with.

The Workmen's Compensation Act and its Operation in Great Britain.

Professor GLAISTER read a paper on this subject. He first pointed out that the Act is absolutely silent as regards any definition of what is an accident, and gave some remarkable illustrations of incidences which had been ruled to be "accidents," and in which compensation had been granted, such as a gamekeeper being injured by a poacher, an engine-driver being injured by a stone dropped by a boy from a bridge, and a man murdered whilst on a journey in the course of his employment, although it was proved that the crime was premeditated. Professor Glaister gave some interesting statistics as regards the number of fatal and

disabling accidents in various trades during the years 1909, 1910, and 1911.

Injuries of the Back considered from their Medico-Legal Aspect.

Dr. A. S. MORLEY (London) read a paper on this subject. He commenced with a detailed discussion on the anatomy of the spine, and then pointed out that when a patient comes for diagnosis or treatment complaining of an "injury to the back," the first thing to do is to arrive at a decision as to whether he is genuinely suffering at all; then to ascertain exactly what structure in the back is at fault, and lastly, to decide whether the condition is really due to accident, or whether it is in reality due to lumbago or other forms of fibrositis, or myositis. He proceeded to give a full and interesting account of the various diagnostic points which are of importance, and discussed the treatment which should be adopted under the varying circumstances. In his conclusions he pleaded for more scientific diagnosis and treatment of these injuries. He condemned the treatment of such cases in haphazard ways by means of prolonged rest followed by the prescription of stimulating and useless porous plasters to be used anyhow by the patient or his relatives. He advocated the treatment of these cases on up-to-date lines, such as more advanced surgeons are using in injured joints in the limbs. Lastly, he pleaded for the attention of practitioners to the general condition of patients who have met with these injuries, and asked them to remember the man's general well-being as well as that of his back, and to look out for and remedy constitutional complaints, septic infections, and other pre-existing and subsequent conditions while treating such cases.

Dr. B. H. SPILSBURY (London) read a paper on the Pathological Aspect of Deaths under Anæsthetics, and Dr. J. C. MCWALTER (Dublin) on "Should the State Institute Necropsy in Every Case of Death?"

SECTIONS XII. AND XIX.—JOINT SESSION OF THE SECTION OF PSYCHIATRY WITH THE SECTION OF FORENSIC MEDICINE.

TUESDAY, AUGUST 12TH.

The Psychology of Crime.

The reporters were Professor Comm. E. Morselli (Genoa) and Professor W. Weygandt (Hamburg), but the former was not in attendance.

Professor WEYGANDT said that with advancing knowledge the views on crime had considerably changed. Crime depended on two factors—the individual and his environment. He thought that criminals could be divided into seven categories, representing progressive degrees of variation from the normal: (1) occasional criminals; (2) emotional and inductional criminals; (3) opportunists; (4) habitual criminals; (5) professional criminals; (6) feeble-minded criminals; and (7) insane criminals. He was of opinion that the knowledge of crime and criminals had now reached such a point that the idea of punishment as retribution would no longer be held by thinking people, and those who had studied the question closely were aware of the fact that it seldom acted as a deterrent. What measures, he asked, should be taken to prevent crime from occurring and so protect the public? He thought the most important were proper education and care of the young, control and efficient training of all grades of those mentally deficient, industrial and reform institutions for occasional criminals, segregation of habitual criminals, and inebriate and lunatic asylums. He further maintained that there was another point upon which too much stress could not be laid, if the desired prevention and protection were to be attained—namely, that it was necessary that the duration of detention should be dependent on the success of the treatment, and not fixed beforehand without any care for the final result. The arbitrary fixing of the duration of sentences at the trial was the remains of the retributive idea of punishment.

Professor L. BIANCHI (Naples) said the problem of criminality was a social one of the greatest importance to the State. It was most necessary that the subject should be studied from both a physiological and a psychological aspect, in order to determine as exactly as possible the relative importance of nature and nurture.

Dr. H. COLIN (Paris) gave a brief account of cases showing that the committal of a crime is not infrequently the first sign of insanity in certain cases of dementia præcox and of other forms of chronic mental disease. He supported the view that sentences for crime should not be of definite duration—at all events, until the mental state of the individual had been fully investigated.

Dr. I. H. CORIAT (Boston) dealt chiefly with the subject of juvenile delinquents. He had found that a large percentage presented a severe type of mental disorder—dementia præcox; epilepsy, especially *petit mal*, was also often present. Many of the children were feeble-minded. He thought that there were a large number of criminals who should be subjected to a mental examination.

Dr. VITALI (Uruguay) maintained that crime denoted lack of mental strength in the individual, in the majority of cases enforced by want of education and poverty. He declared that there was no psychology of crime; occasionally there was a pathological basis, but this was not common. Histology gave but little information. The social question in regard to crime was the line upon which investigation should be directed.

Sir JAMES CRICHTON-BROWNE (London) paid a tribute to the work of Lombroso, and said that thanks to that observer we were advancing towards a more humane treatment of the criminal. He criticised the Blue-book under the title of "The English Convict," which had just been issued by Dr. C. Goring, medical officer to Parkhurst Prison. He considered that all applicants for the Prison Medical Service should be required to study for a year in a lunatic asylum so as to be familiar with mental diseases. He believed that the improvement exhibited in certain aspects of our prisons was contemporaneous with the appointment of a medical man as one of the Prison Commissioners, and contended that it would have an excellent effect if a medical man were always appointed governor of a prison.

SECTION XX.—NAVAL AND MILITARY MEDICINE.

FRIDAY, AUGUST 8TH.

President, Surgeon-General Sir LAUNCELOT GUBBINS, K.C.B.

Morning Session.

The subject for discussion was

Antityphoid Inoculation,

and the chair was taken by Surgeon-General Sir DAVID BRUCE.

Professor H. VINCENT (Val-de-Grace, Paris) described the method pursued and the results obtained in the French army. A polyvalent vaccine was employed, having 400 million bacilli per c.c., sterilised by ether (which evaporated), and not containing any antiseptic. The operation was voluntary, but was popular among the troops; in 1912 there were 53,157 vaccinations, chiefly in the south and south-east of France, Algeria, Morocco, and Tunis. Antiparatyphoid vaccines A and B were also employed. The efficacy of the vaccine had been proved by the protection it afforded to seven persons (medical men and students) who involuntarily absorbed enormous quantities of typhoid bacilli; it also gave considerable protection even in the incubation stage, as shown at Avignon, in Morocco, and elsewhere. In 1912, among 30,325 men of the "troupes de la Metropole" and 1045 of the colonial army stationed in France who had been vaccinated, no case of typhoid fever occurred; the non-vaccinated had 2·22 cases per 1000 in the metropolitan troops and in the colonial army 6·34 per 1000. At Avignon (July, 1912), among 687 non-vaccinated men, there were 225 cases and 32 deaths per 1000; 1366 vaccinated men escaped altogether. It was to be hoped that obligatory vaccination in the North African garrison would practically do away with typhoid altogether. At Paimpol and at Puy l'Evêque, towns attacked by severe epidemics, more than 700 persons were vaccinated; they all escaped fever. This was the first time, said Professor Vincent, that this method had been employed, in France or elsewhere, on a large scale as the only preventive measure in an epidemic among a civil population.

Sir WILLIAM LEISHMAN, R.A.M.C., described the method pursued at the Royal Army Medical College; a monovalent strain of low virulence was employed, prepared in bouillon, sterilised by heat, and standardised according to the number of dead bacilli in a given volume. Vaccine was not used that was more than three months old. Two doses were given, one of 500 million dead typhoid bacteria, and the

other, after 10 days, of double the quantity. Reaction was generally quite moderate. As to duration of immunity, the determination of this was very difficult, but two years might be regarded as the average period. Sir W. Leishman believed that the dangers of the "negative phase" had been exaggerated. The typhoid vaccine did not protect against paratyphoid, and the preparation of a mixed vaccine was now being investigated. Statistics were adduced in detail as to the incidence of typhoid among inoculated and uninoculated troops in India. In 1912 the enteric admissions per 1000 were respectively 1·2 and 5·6, and the deaths 0·16 and 2·25 per 1000. General sanitation had certainly improved of late years, but this alone would not account for the decreased incidence of the disease.

A lively discussion followed, in which a large number took part. Major F. F. RUSSELL gave the experience of the United States Army. Professor H. REYNÈS (Marseilles) described the iodised vaccine of Ranque and Sénez; the typhoid bacillus was sterilised by an iodised solution, neutralised by hyposulphite of soda. More than 2000 injections had been made, with the most successful results. An important point emphasised was that pregnancy was no contraindication. Professor RODET (Lyons), Professor CHANTEMESSE and Professor NETTER (Paris), Inspector-General CAVALLERLEONE (of the Italian army), Signor CALCAGNO (Italian Minister of Marine), Dr. W. BROUGHTON-ALCOCK (Paris), and many others bore testimony to the great value of inoculation, as to which the general opinion was unanimous.

At the afternoon meeting the attendance was scanty.

Marine-Oberstabsarzt Dr. STABY read a short paper on the

Medical Service of Landing Parties,

in which the points to be attended to were stated as: (1) first aid on the field; (2) transport to dressing station; (3) dressing of wounds; (4) transport to ship or field hospital; and (5) thorough attention at the ship or hospital.

Marine-Stabsarzt Dr. HOFMANN spoke on the Management of Infectious Diseases.

TUESDAY, AUGUST 12TH.

The chair was taken in the morning by Surgeon-General A. W. MAY, R.N., Medical Director-General of the Navy.

Staff-Surgeon R. W. G. STEWART, R.N., read a paper on

Caisson Disease,

in which he detailed the symptoms and course of treatment pursued in cases within his own experience occurring in divers. The dangers of rapid decompression were pointed out. Stage decompression was always employed, the diminution of pressure being rapid to begin with, and subsequently slowed.

Dr. L. DI CAVALLERLEONE read a short paper on Radiology in the Field, and described a portable apparatus of his own design.

The Physiology of Physical Training and Marching

was the subject of communications by Captain G. A. D. HARVEY, R.A.M.C., and by Dr. OTTO BUCHINGER (Flensburg). The latter gave a summary of the researches of Zuntz and Schumburg, advised entire abstinence from alcohol, and extolled the virtues of a vegetarian diet.

A discussion followed, in which Major JARVIS (of the United States Army) expressed his opinion that the old soldier marched better than the young one, his movements being more automatic.

Colonel G. C. JONES (Medical Director-General of the Canadian Militia) urged the extreme importance at the present time of the power of marching; yet, owing to the great increase in means of locomotion everywhere (trams, motor omnibuses, and so on), the population generally was losing the capacity for walking by disuse of function. In great marches discipline and the personality of the commander were the chief factors in success. The medical officer's duties were also most important.

The CHAIRMAN, speaking with diffidence as a naval officer on a military subject, referred to the arduous march of 250 miles across a waterless desert on the Khartoum relief expedition, when the water-supply was extremely limited; and in regard to sore feet, advised oiling the boots and the use of a cloth wrapped round the feet instead of socks. In bringing the meetings of the section to a close he expressed the pleasure felt in renewing old companionships with friends from across the sea of various nationalities, to whom he would say in conclusion, not "Goodbye," but *au revoir.*

SECTIONS XIII. AND XX.—JOINT SESSION OF THE SECTION OF DERMATOLOGY AND SYPHILIGRAPHY WITH THE SECTION OF NAVAL AND MILITARY MEDICINE.

MONDAY, AUGUST 11TH.

President, Sir MALCOLM MORRIS, K.C.V.O.

Morning Session.

A very fully attended discussion took place on

The Treatment of Syphilis by Salvarsan and Allied Substances.

This was opened by Professor EHRLICH, who delivered an eloquent address on the action of the drug, its toxicity, the causation of the febrile reaction, and the prevention of recurrence of syphilis after its use. He said that his remarks dealt mainly with the chemical aspect of the subject. It had been stated by many that salvarsan had no direct action on the spirochæta pallida, and this had been founded on experiments conducted in test-tubes. If, however, a mixture of salvarsan and spirochætæ be injected together, no syphilis resulted. This was because the salvarsan "anchored" the spirochæta and allowed some substance in the body to attack it. He was sure there was no toxic action of "606" on the nervous system. The alkaline solution was much less toxic than the acid. Experiments on rabbits showed that large doses could be administered for a long time without harmful effects. The first organ to suffer was the kidney. Adverting to the fever met with in man, he thought that many cases were the result of technical errors; in the secondary stage it might be due to destruction of a large number of spirochætæ, and this could be checked by a preliminary mercurial course or a small injection of salvarsan. Nerve affections were the result of insufficient salvarsan. In the florid cases a Herxheimer reaction occurred in the brain and cranial nerves, causing considerable swelling of these structures, and the eighth nerve in its bony canal might thus be injured. The deaths after second injections in healthy subjects were consequent upon a further swelling of the brain as the result of the injection. True idiosyncrasy was very uncommon. It was to be remembered that salvarsan deaths were really rarities, only a few having occurred in many thousands of cases. Cancer, Addison's disease, and the status lymphaticus were absolute contraindications. There was a vast chain of syphilitic infection stretching from the chancre to general paralysis. It was most important to abort syphilis in the earliest stage, although many good results might be obtained in the later phases. He concluded by affirming that if the chancre be taken as the commencement, and general paralysis as the final manifestation, of syphilis, sterilisation could be effected in the first stage, and considerable alleviation afforded in the final.

The PRESIDENT then moved a special vote of thanks to Professor Ehrlich, which was carried by acclamation. In calling upon Lieutenant-Colonel T. W. Gibbard and Major L. W. Harrison, the President eulogised the work of the Royal Army Medical Corps. These officers had seized on the new treatment at once and had carried it out most enthusiastically and thoroughly.

Lieutenant-Colonel GIBBARD, who was received with applause, thanked the President for his kind words, and said, "We have done our best." He then read a joint paper by himself and Major HARRISON, in which he said that they had employed salvarsan in military practice during the last three years, and with such a complete supervision of every case that they were able to estimate the great improvement that it had brought about in the treatment of syphilis in the British army. The conclusions they had come to were as follows:—1. As to administration; three intravenous injections of 0·6 gramme salvarsan, and ten intramuscular injections of mercury, spread over nine or ten weeks, gave the best results. 2. Treatment should be commenced as early as possible in the primary stage, because under salvarsan primary cases suffered much less from relapse than those in the secondary stage. 3. In the British army the use of salvarsan had saved 70,000 to 80,000 days of hospital treatment, and had effected an economy equal to the cost of keeping a battalion in hospital for three months. 4. The drug was safe enough to justify its routine use, but only by those who were familiar with the indications for and against its exhibition, and with the technique of administration. In over 3000 injections they had not had

any fatality, and all cases had completely recovered from the effects on the third day. The initial treatment must be prolonged and thorough; the drug should only be used freshly prepared, especially the saline solution. A full dose should not be repeated at a less interval than one month. The treatment must only be carried out by those who were thoroughly acquainted with the details of management.

At the conclusion of the paper the PRESIDENT congratulated the authors on the results of their work, which had given the strongest encouragement to civil hospital authorities to make use of the treatment. He then welcomed Professor Neisser, whose name was a household word to surgeons.

Professor A. NEISSER (Breslau), who spoke eloquently and with animation, dwelt on the great importance of attempting to "sterilise" the patient in the early stage; the blood test (Wassermann reaction) should be applied not only to the serum, but to the cerebro-spinal fluid. If there was a positive reaction without clinical manifestations it might be possible to save the patient from these. He recommended small doses to begin with (0·1 to 0·2 gramme), with a second injection eight to ten days later of the same or a slightly increased dose, mercury to be commenced at the same time or soon after. If there were no unfavourable symptoms (nervous, gastric, or intestinal) or vasomotor signs, the dose could be increased to 0·4 to 0·6 gramme in the male and 0·3 to 0·5 gramme in the female. Careful observation of renal and intestinal excretions was needed, and especial care in alcoholic, neurasthenic, and liver cases.

Dr. H. HALLOPEAU (Paris) said that his practice was to give 0·03 gramme at intervals of five days for 40 days.

The results of 500 injections, mostly the secondary stage in young adults, given at the Seamen's Hospital, Greenwich, were communicated by Sir MALCOLM MORRIS and Dr. H. MACCORMAC (London). They had had most encouraging results in primary cases and had invariably prevented the appearance of secondary symptoms. In lesions of the integumentary system no failure was recorded, although many of the cases had proved absolutely rebellious to mercury and potassium iodide perseveringly given. They had also good results in other forms of syphilis, although where the nervous system had been involved these were disappointing. In their series there was no fatality, nor had deafness or blindness been encountered. They advocated two or three doses of full strength and two years of subsequent mercurial treatment.

Dr. LEREDDE (Paris) believed in employing very active means for destroying all the syphilitic parasites. He also emphasised the importance of examining both blood and cerebro-spinal fluid. Salvarsan should be given by experts only.

Mr. J. E. R. MCDONAGH (London) advised excision of the primary sore if seen early enough; and with regard to administration of "606" strongly advised control examinations of the blood and cerebro-spinal fluid.

Dr. LEVY-BING (Paris) considered that the sterilisation of syphilis, even if started at the commencement of infection, was extremely difficult, if not impossible. A negative Wassermann reaction did not prove that cure had resulted. He had been unable by the use of "606" to obtain the *sterilisatio magna* extolled by Ehrlich and affirmed by many other observers.

Professor S. HATA (Tokio) was received with applause. He thought all relapses of syphilis were due to insufficient treatment; he referred to the results of 160 cases—primary, secondary, and tertiary. As judged by symptoms, there was relapse in only three secondary cases, in no primary nor tertiary cases. As judged by Wassermann reaction, there was relapse in five secondary and eight tertiary cases.

Dr. J. A. FORDYCE (New York) had obtained success with salvarsan in most secondary cases, but had failed in the treatment of latent cases.

Dr. E. SCHREIBER (Magdeburg), Dr. J. MCINTOSH (London), Dr. C. ULLMANN (Vienna), Dr. JADASSOHN (Berne), and other physicians also spoke, the testimony to the value of salvarsan being almost unanimous.

Major HARRISON briefly replied. He agreed with Mr. McDonagh that it was dangerous to administer "606" spasmodically; a complete course should always be given.

Professor EHRLICH, in conclusion, believed that in most points they were in agreement. As to danger, this might arise from too much or too little of the drug. It must at any rate be admitted that salvarsan was of great value in the treatment of syphilis.

Afternoon Session.

In the afternoon a further series of papers on syphilis were read.

Mr. MCDONAGH, in an interesting communication, discussed the physico-chemical properties of the leucocytozoon of syphilis.

Professor GAUCHER and Dr. D. JOLTRAIN (Paris) emphasised the value of complement-fixation tests in skin diseases. In secondary syphilis 80 per cent. positive Wassermann results were met with. In tabes 60 to 75 per cent. positives, while 90 per cent. positive results were obtained in acute specific meningitis. A complement-fixation test had also been successfully employed by them in leprosy, mycosis fungoides, actinomycosis, and sporotrichosis.

Dr. E. H. ROSS (London) described a syphilis-like disease in wild rabbits. A spirochæta had been found, and mercury was curative.

Dr. ELLIS and Dr. SMITH (New York) had treated 32 patients with intraspinous injections of serum in addition to intravenous salvarsan. The serum was obtained one hour after an intramuscular injection of salvarsan. The cerebro-spinal fluid of the treated patients became normal, the cells and the globulin disappearing, and the Wassermann reaction becoming negative.

SECTION XXII.—RADIOLOGY.

FRIDAY, AUGUST 8TH.

President, Sir JAMES MACKENZIE DAVIDSON (London).

Professor K. F. WENCKEBACH (Strassburg) and Dr. HUGH WALSHAM (London) opened a discussion on

The Radiography of the Chest.

Professor WENCKEBACH'S paper was taken as read and will be published in English. He showed a number of excellent photographs from the Strassburg clinic, such as a softened sarcoma communicating with a bronchus and simulating an abscess cavity, from which it was radiographically indistinguishable; a dislocation of the trachea due to shrinkage of an old tuberculous apex, and giving signs as of a lung cavity which was not present; also several tuberculous cavities containing pus, with a horizontal upper surface. A remarkable series of pictures of a single case of artificial pneumothorax showed the conditions produced by increasing amounts of introduced nitrogen.

Dr. WALSHAM, after a few introductory remarks in which he paid a graceful tribute to continental writers on the subject, proceeded to give a short history of the application of the X rays to the diagnosis of chest disease, and expressed satisfaction that the X rays had now definitely taken their place as a means of diagnosis, and advanced the opinion that no chest had been completely examined unless the X rays had been used. He then proceeded to the methods of examination, placing great weight on short exposures, saying that short or almost instantaneous exposures had revolutionised our methods of detecting early pulmonary tuberculosis. Dr. Walsham next proceeded to discuss Williams's sign of early pulmonary tubercle, saying he considered it a valuable sign in some cases. He then discussed the value of deficient illumination of the apex as seen by the screen as an early sign, pointing out, however, that it might be caused by the intrathoracic thymus (Kinbock's sign). He next considered the question as to whether the X rays could detect pulmonary tuberculosis before other means at our disposal, and said that in some cases they undoubtedly could. The question of peribronchial tuberculosis was then discussed, Dr. Walsham saying that if ultimately accepted he thought it would well-nigh revolutionise our ideas of pulmonary tuberculosis. Disease of the heart and aorta as diagnosed by X rays was passed in review, and the differential diagnosis of an aneurysm from a mediastinal new growth was discussed. Dr. Walsham finally proceeded to the subject of the measurement of the heart with the orthodiagraph, but said that he thought this method would be superseded by instantaneous exposures.

Dr. A. KÖHLER (Wiesbaden) related a case of well-defined shadow in the upper part of one lung in which the diagnosis lay between echinococcus cyst, dermoid, teratoma, and metastatic cancer. It proved to be the last named.

Dr. G. F. HAENISCH (Hamburg) pointed out that to diagnose between cancer and tubercle of the lung was often difficult and in fact impossible by X rays.

Dr. R. LEDOUX-LEBARD (Paris) insisted that cases should be radiographed before operation, not only for guidance in operating but for the avoidance of unnecessary operation.

Dr. J. S. PART (London) pointed out that slight variations of the relative positions of the patient and tube made great differences in the image, important especially in the case of the heart, and suggested that a committee should fix standards.

The PRESIDENT emphasised the value of stereoscopic screen examinations of the chest and predicted their extended use.

Dr. WALSHAM, in replying, agreed that X rays often afforded the only way of detecting pulmonary tuberculosis when emphysema was present. He differed from Dr. Jordan in thinking that tubercle might be primary in the glands.

Professor WENCKEBACH made the point that not pulsation but expansion was pathognomonic of aneurysm.

Afternoon Session.

Dr. SYDNEY A. OWEN (London) opened with a paper on

The Early Diagnosis of Tubercle of the Lungs,

and showed by a series of cases that radiography afforded a means of diagnosis often many months before tubercle bacilli were demonstrable in sputum, and even before physical signs were appreciable. He strongly insisted that X rays should be used as an additional method of physical examination, not only where the older methods gave doubtful results, but in all suspected cases.

Dr. REGINALD MORTON (London) did not agree with some writers who maintained that active tubercle could be distinguished from healed lesions by the woolliness or sharpness of the shadow edges. Want of definition might be due to the lesion being further from the plate, and thus less sharply focussed.

Dr. A. BROCA (Paris) and Dr. V. MAHAR (Paris) contributed a paper on

The Treatment of Local Tuberculosis by Radiotherapy.

Out of 200 cases treated of various forms of local tuberculosis at the Paris Hospital for Children they gave the result of the treatment in 146 cases. 1. Tuberculosis of the skin and subcutaneous tissues, ulceration, cold abscess: 26 cases treated, with 18 cures, and the remainder greatly improved. 2. Tubercular synovitis: 7 cases, 6 cures. 3. Tubercular glands: 79 cases, 36 cures. 4. Tubercular osteitis and osteo-arthritis, of which also a large percentage were cured and the remainder improved. Mild doses of X rays were employed, and the applications made at intervals of from 10 to 15 days. This was done to obtain the stimulating action of the rays, being anxious not to paralyse the reparative action. In the superficial ulcerated form no filtration was used. The authors noted the destructive action of the rays on the lymphoid elements and the proliferating cells, *plus* a stimulation of surrounding healthy cells. The application was valuable, safe, and painless, and did not prevent surgical interference if necessary. The technique was not of uniform character and was varied according to the depth of the lesion. The medium dose was for 10 minutes with a tube of 5 to 6 Benoist passing 1 ma. of current and at a distance of 20 cm. They found that this dose gave no marked reaction even in children, and for the more superficial diseases they preferred to use no filtration.

Dr. L. KÜPFERLE (Freiberg) made an interesting communication on

The X Ray Treatment of Pulmonary Tuberculosis in Rabbits and Man.

The animals were tuberculised by intravascular injections, and the resulting disease was found to be benefited in both early and late stages by the use of hard rays. The extension of the disease was hindered and fibrous tissue developed, but hitherto no direct effect on the bacilli themselves had been observed. In a few cases of pulmonary tubercle in man with fever and sputum (Turban Stages I. and II.) marked improvement of symptoms was observed after the use of not too small doses of hard rays, and Dr. Küpferle therefore regarded these as a valuable adjunct in treatment. Further experiments with radium and mesothorium were now in progress.

Dr. LÉON TIXIER (Mentone) gave his experiences with

The Combined Use of Heliotherapy and Radiotherapy in the Treatment of Adenitis.

He said that oral and general heliotherapy tended to prevent pus formation, which opened the door to secondary infections which formed the greatest factors of gravity in these conditions. Combined with radiotherapy reabsorption was favoured, and two or three months' treatment usually cured the condition. The heliotherapy could be advantageously carried out on the Riviera. The radiotherapeutic technique advised is: doses of 3½ H. once a week, aluminium filter of 1–2 mm. medium tube. Dr. Tixier gave a history of a number of cases showing the satisfactory results obtained.

Dr. D'OELITZ and Dr. C. PASCHETTA (Nice) dealt with

The Radiographic Exploration of Thoracic Disease in Infants.

After reviewing the various pathological conditions and their radiological appearances, these authors come to the conclusion that this form of examination is of the utmost value to the clinician. It does not exclude the ordinary methods which help greatly in the interpretation of the plates. The X ray examination in some instances is the only possible method of diagnosis; and where the diagnosis is already established by the ordinary means it adds to the data available by showing the exact extent of the lesion. A very large number of prints were shown of various thoracic conditions. The authors point out the great value of examination in the oblique as well as antero-posterior positions.

Dr. KÖHLER exhibited pictures of a case of Tuberculosis of the Kidneys. One kidney, having been excised, showed calcification in the cortex, while the other in the living subject threw a shadow as deep as that of a stomach containing a bismuth meal, due no doubt to the same condition as was found in the excised organ.

Dr. POTOCKI, Dr. WELHERM, and Dr. LAQUERRIÈRE (Paris) contributed a paper on

The Radiography of the Fœtus.

They had studied the results obtained at the Hôpital de la Pitié. In spite of the difficulties caused by the thickness of the maternal tissues, the feeble opacity of the skeleton of the fœtus, and the movements, they succeeded in obtaining good plates of the fœtus at various periods of gestation. The plates were taken instantaneously. The patient should be previously prepared in a similar manner to a radiographic examination for stone.

SATURDAY, AUGUST 9TH.

The only session of the day was held in the forenoon, and related to the subject of

Radiotherapy in the Treatment of Malignant Disease.

The reporters were Dr. ROBERT ABBE (New York) and Dr. R. KIENBÖCK (Vienna).

Dr. ABBE's paper, entitled "The Use of Radium in Malignant Disease," was printed in full in THE LANCET of August 23rd, p. 524. It was illustrated by many coloured casts, photographs, and plates.

Dr. KIENBÖCK limited his remarks to treatment by X rays, the value of which lay in their selective affinity for tumour cells. With regard to the stimulating effect it had been said "Kleine dosen sind reizdosen" (small doses act as stimuli), and this was true in some cases; but the subject was little understood as yet. Filters had improved results by allowing larger doses to be given.

Dr. BÉCLÈRE (Paris) recalled Dr. Kienböck's observation that the differences of intensity of radiation of a given skin area led to a central necrotic area surrounded successively by zones of ulceration, irritation, and depilation. Dr. Béclère had never observed stimulation of a growth nor of the normal skin.

Dr. F. J. CLENDINNEN (Melbourne) exhibited numerous slides showing cases of superficial malignant growths of the face, lupus, rodent ulcer, and one of alopecia areata, cured by radium.

Dr. N. S. FINZI (London) pointed out the difference in action of filtered and unfiltered rays (radium and X rays), and stated his experience that filtration was best both in superficial and deep-seated lesions, giving as an instance of the former lupus erythematosus and lupus vulgaris when treating these conditions by X rays. With regard to radium, the α and β rays were entirely shut off by filtration, leaving

the hard γ rays, which were the paralysing rays, as opposed to the stimulating α and β rays. He found that the thickness of the filter raised the nature of the γ rays. With regard to choice of method, X rays or radium, the former were better in cases involving an extensive area unless a sufficient quantity of radium could be obtained. In cases where the area was small radium should be used, which was specially indicated in ulcers and epitheliomata irresponsive to X rays.

Mr. C. R. C. LYSTER (London) also gave a short *résumé* of his own experience of radium therapy.

The PRESIDENT pointed out that since it required 1 cm. of lead to cut off all β rays from radium, they were using these as well as γ rays, even when, as in Abbe's work, a distance of from $1\frac{1}{2}$ to 4 inches intervened. More precise data were required, and it was very necessary to keep in touch with the physicists. The first requisite was to know exactly what rays were being used, and then to ascertain the effects on living cells of various kinds, for even one rodent ulcer might be very different from another.

Dr. ABBE briefly replied.

MONDAY, AUGUST 11TH.

Afternoon Session.

Dr. F. JAUGEAS (Paris) read a paper on

Radiotherapy of Uterine Fibromas,

in which he gave an account of his work and histories of cases treated, for the most part with diminution in the size of the tumour and reduced hæmorrhage and pain. He administers 10–12 H. in two doses once monthly to each area. He recorded no bad reactions.

Dr. BÉCLÈRE (Paris) read a paper on the same subject. He laid immense stress on the character of the rays employed. The dose received by the ovaries and uterus depended on their depth from the surface. With massive doses of rays 1·0 B the skin did not absorb more than with the smaller doses previously given. The hard rays were in addition filtered.

Dr. G. HARET (Paris), in a paper on

Treatment of Hypertrophy of Prostate by X Rays,

gave an account of those cases in his opinion suitable for this treatment. A marked diminution in size was noted after six treatments or less applied to the perineum, along with amelioration of all symptoms. Certain failures were encountered in old-standing cases.

In reference to this paper, Dr. P. DEGRAIS (Paris) gave an account of radium as employed in this condition with good result. It was suggested that a combination of X rays and radium would be best. This was now being tried, but it was as yet too early to give definite facts.

Dr. LAQUERRIÈRE read a paper on Electrolyse du Radium en Gynécologie. These applications were recommended in various conditions, metritis and adhesions of peri-uterine nature.

Dr. HUGO SCHÜLLER (Vienna) read a paper on the Treatment of Prostatic Hypertrophy by the Introduction of Radium into the Bladder by means of a special instrument. The prostate was favourably situated for such treatment and the bladder sufficiently tolerant. Of ten cases with more than three years' complete retention, two were completely cured, four ameliorated, and four remained refractory. Histological proof of the processes involved in the cure was not yet forthcoming.

Dr. F. DESSAUER (Frankfort) showed a radiograph of a child's stomach taken in 1/300th sec. The milk was thrown up in a shower of drops owing to the child crying. He also exhibited a series of six radiograms of a single cardiac cycle showing its varying phases.

TUESDAY, AUGUST 12TH.

Afternoon Session.

Mr. S. GILBERT SCOTT (London) read a paper on

Radiological Appearances in Malignant Bone Disease,

which was illustrated by lantern slides. He remarked that the appearances were difficult of translation. After giving an account of the various forms of malignant growth found in bone, he noted that the rate of growth helped to indicate the particular form present. The cases did not present themselves in the early stage and the bone was usually expanded, and fracture might have occurred. This expansion was due to Nature's effort to limit the disease, the periosteum forming fresh bone on its inner aspect. The trabeculæ were also an effort at repair and were only found in the wall of the tumour. Expansion and presence of trabeculæ were evidence of slow growth. The non-ossifying and diffuse form of sarcoma showed no signs except periosteal spicules. There was little expansion in carcinoma, the bone being eaten away. The myeloid sarcoma grew slowly, the periosteal form rapidly, and the latter might be lobulated in character.

Dr. A. H. PIRIE (Montreal) discussed the paper, and showed slides of a case of what had been diagnosed as carcinoma of the upper portion of the humerus. At operation the bone was found normal. The deceptive appearance was due to the angle at which the bone had been taken.

Dr. E. H. SKINNER (Missouri) read a paper on

The Mathematical Calculation of Prognosis in Fractures at Ankle and Elbow Joints.

This was based on a method of lines showing the weight-bearing force, not upon statistics. The proper relations of these lines were more important than the line of fracture itself. If they were deranged the articular surfaces were not normally opposed.

Mr. C. THURSTAN HOLLAND (Liverpool) questioned whether, if the line of force was normal in a case where that force was not being exerted, it would remain normal when the force was exerted.

Dr. W. IRONSIDE BRUCE (London) referred to the necessity of a limb being in a certain defined position when the plate was taken in order to plot out the line of normal incidence of weight.

Other speakers joined in the discussion, to which a good deal of importance was attached.

Dr. G. BALSAMOF (Sofia), in a paper on Radiotherapy in Tubercular Peritonitis, recorded 11 cases treated by X rays after paracentesis, and stated that 8 were cured, 2 improved, and 2 remained *in statu quo*.

In closing the Congress the PRESIDENT congratulated the members on a most successful and interesting series of meetings.

A vote of thanks was moved to the President and Secretaries, and was received with enthusiasm.

SECTIONS XI. AND VII.—JOINT SESSION OF THE SECTION OF NEUROPATHOLOGY WITH THE SECTION OF SURGERY.

MONDAY, AUGUST 11TH.

This joint meeting was held in the morning and the subject for discussion was

Treatment of Tumours of the Brain and the Indications for Operation.

Professor L. BRUNS (Hanover), in opening the discussion, remarked at the outset that the medical treatment of intracranial tumours was extremely limited; even in cases of intracranial syphilitic disease (gummata) surgical treatment was often desirable, if not indeed essential. He divided treatment, from the surgical standpoint, into radical and palliative treatment. The indications for radical operation depended on the nature of the tumour and the possibility of recognising its nature by clinical methods, and on the possibility of an exact localising diagnosis, also on whether it was surgically accessible. The percentage of actual cures was very small, yet the outlook apart from surgical interference was so hopeless that he felt the question was one which demanded, and would continue to demand, the best efforts of the surgical profession.

Professor HARVEY CUSHING (Boston, U.S.A.) said that statistics on the results of operation in intracranial tumour were unsatisfactory. The word "recovery" was employed in different senses, varying with the individual. In the strictest sense perhaps only 5 per cent. of cases were cured; on the other hand, in more than 50 per cent. relief, improvement, and prolongation of life could be obtained. In his last consecutive 100 cases (115 operations) he had had only 7 deaths. He described in some detail his methods, more especially in connexion with subtentorial operations. He had frequently found it desirable to remove the posterior part of the atlas as well as part of the foramen magnum in cases where the intracranial tension had been very great.

Professor Cushing showed a number of lantern slides illustrative of technique and of surgical pathology. He spoke in a hopeful way of the future of cerebral surgery.

Dr. HOWARD H. TOOTH (London) presented a communication based on a painstaking analysis of the results of intracranial operations and on general intracranial cases at the National Hospital, Queen-square, London, during the ten years 1902 to 1911 inclusive. He discussed the indications for operative treatment, the choice of operation, the prognosis or expectation of life, the dangers peculiar to operations on the various forms of growth and for the regions involved, and the mortality. He said it must be admitted that a high general mortality existed for all operations on the brain, even in the hands of the most experienced surgeons, and that unforeseen fatal results followed even the apparently simple craniectomy of the first stage. He felt, however, that this mortality was capable of reduction, not by shrinking from operation, but by judicious choice of the form of operation and modification of procedure.

Sir VICTOR HORSLEY (London) said that an accurate histological diagnosis of tumours was necessary from the prognostic standpoint. He counselled early surgical interference before the establishment of any serious symptom. He suggested that progression in the symptoms was sufficient indication for a diagnosis of cerebral tumour, though the cardinal signs of cerebral tumour might be absent. The greater the difficulty of diagnosis the earlier should be the operation. He maintained that treatment of intracranial tumours could only be surgical.

Professor F. KRAUSE (Berlin) quoted the details in figures of some 145 cases he had operated on during the last ten years, with a mortality of 20 per cent.

Other speakers included Sir WILLIAM MACEWEN (Glasgow), Dr. A. CLAUDE (Paris), and Mr. LESLIE PATON (London).

SUBSECTION IIIA.—CHEMICAL PATHOLOGY.

FRIDAY, AUGUST 8TH.

President, Dr. F. GOWLAND HOPKINS.

A joint meeting took place between Subsection IIIA. and Section IV. (Bacteriology and Immunity) on the subject of

Cancer.

The discussion was rather unsatisfactory in that so many different points of view were brought forward by the various speakers that the ground covered was extremely wide; the total result tended therefore rather to emphasise the lack of any guiding line of investigation and our present complete ignorance of the causation and mode of development of the disease.

Dr. E. F. BASHFORD (London), in opening the discussion, confined himself to the work done at the Imperial Cancer Research Laboratory, and dealt particularly with the so-called immunity actions of transplanted growths. The use of the term immunity in the strict serological sense was clearly wrong, as no characteristic serum reactions had been discovered during the whole course of the work. The term immunity employed in the present connexion only implied a resistance to further inoculations of a particular tumour obtained by an inoculation of that tumour of such kind that the primarily inoculated tumour did not persist in growth. This reaction was not peculiar to the tumour, but could be obtained equally well by the inoculation of the normal tissues of the original tumour host. The inoculation of an animal by its own growing tumour caused a rapid dissemination of growth. Tumour strains varied greatly in power of growth, which seemed to depend on their power of producing an active reaction in the new host against themselves. These results could not, however, be directly applied to spontaneously arising cancer. The question of chronic irritation was an interesting one; the occurrence of cancer in the right horn only of the draft oxen in Cashmere corresponded to the custom of attaching the wagon to this horn only. A successful graft lost its original stroma, which was replaced by a framework supplied by the host; if the graft did not take, this new growing in did not occur, and the tumour tissue became shut off by a fibrous capsule and disintegrated. A carcinomatous growth on transplantation might give rise to the development of a sarcoma from a focus within it; these mixed tumours did not, as Ehrlich originally supposed, always become pure sarcomata, but might also resort to the original carcinomatous form.

Dr. E. FREUND (Vienna) followed and dealt with the chemical aspects of the problem. He brought forward evidence that both sarcoma and carcinoma were distinguished from the mother tissues by a great richness in nucleo-proteins, the carcinoma tissues in addition containing a great increase of carbohydrates, the sarcoma tissues a great increase in peptones. Normal serum, in virtue of containing a nitrogen free fatty acid, had the power of destroying carcinoma cells, the nucleo-protein peculiar to malignant growth protected the growth from this action, and also led to the absorption of specific food substances by it—carbohydrates by the carcinoma cells, albumoses by the sarcoma cells. The fatty acid of normal serum not only destroyed carcinoma cells but prevented the formation of the nucleo-globulin. Chronic irritation led to a local failure of this fatty acid and gave rise to a local disposition to carcinoma.

Professor VON WASIELEWSKY (Heidelberg) gave a summary of his researches on the formation of tumours in birds, which were sometimes of a malignant nature, by parasitic infections.

Dr. W. S. LAZARUS-BARLOW (London) brought forward his views as to the importance of the radio-activity of malignant growths; the latter were 50 times as radio-active as normal tumours.

Dr. CLOWES (Buffalo) brought forward an interesting view that the question might turn on the equilibrium of electrolytes at the cell surface; potassium increased the rate of growth, calcium inhibited it.

Other different views were expounded by Professor R. BLITZ (Paris), Professor R. KRAUS (Vienna), Dr. ARTHUR TURNBULL (Glasgow), and Dr. SOPHIE FUCHS VON WULFRING (Paris).

At the afternoon meeting Dr. T. LEWIS (London) and Dr. J. H. RYFFEL (London) described certain observations on the nature of the acid intoxication in a group of cardio-renal cases, who died from respiratory failure without marked signs of cardiac inadequacy. Dr. Ryffel also described the condition of the blood in true uræmia.

Professor MARCEL LABBÉ (Paris) and Professor H. BITTE (Paris) contributed a paper on Increased Excretion of Amino-acids in Urine in Certain Pathological Conditions.

Dr. MACKENZIE WALLIS (London) described his researches into the bacterial origin of Sulphæmoglobinæmia and the removal of the symptoms by vaccine treatment.

The meeting ended with a paper by Dr. A. GELAIE (Liverpool) on Athreptic Immunity in Cancer. His researches tended to show that immunity to carcinoma was a matter of alteration of metabolism.

SATURDAY, AUGUST 9TH.

The subject of discussion was

The Clinical Applications of Pathological Chemistry.

Professor OTTO FOLIN (Boston, U.S.A.), who opened the discussion, confined himself to his own work, and laid great stress on the necessity for the most accurate technique and the most intimate acquaintance of the experimenter with its errors and limitations. The bulk of metabolism work printed in clinical journals was most unreliable. He dealt with the chemical examination of the urine and the blood in disease, and concluded that while urine analysis had given us many facts, blood analysis was going to be of even greater clinical importance, for an accumulation of substances in the blood did not necessarily mean an increased excretion of them in the urine. With reference to urine analysis, the abnormal elimination of ammonia in acidosis was a brilliant contribution to clinical medicine. The formation of urea, on the other hand, was now regarded as a method of protection against excess of ammonia in the blood, and to have no direct relation to tissue metabolism; the millions of urea determinations which had been made by clinicians might therefore just as well have been omitted. The excretion of creatin and creatinin was becoming of increased importance, being probably directly concerned with tissue metabolism, though their significance in disease was not yet satisfactorily established. Turning to blood estimations by his new methods, it had been found that the normal content of non-protein nitrogen varied from 22 to 30 mg. per 100 grm. blood; about one-half represented urea, the other mainly amino-acids and various soluble materials. He had found in nephritics, syphilitics, and the insane a great increase in this non-protein nitrogen, but by suitable dieting the amount could be reduced to the normal—i.e.,

that which the kidney could adequately deal with. Uric acid was normally present in the amount of about 1 or 2 mg. per 100 grm. of blood. In gout, lead poisoning, and leukæmia this was greatly increased, but could be diminished by the administration of atophan.

Dr. A. E. GARROD (London), who followed, emphasised the fact that all scientific treatment must be based on anatomical, physiological, and chemical knowledge. Chemical pathology was of ever-increasing importance, and to it the clinician already owed much, but would owe still more in the near future. For instance, the latest researches into the nature of an adequate diet had revolutionised our previous ideas that a sufficiency of carbohydrates, fats, proteids, and salts was all that was necessary. The latest researches had shown that minute quantities of other substances, at present not satisfactorily identified, were also essential. The metabolic effects of the internal secretions are obviously of the greatest clinical importance. Modern research had also shown that many protein substances—for example, hæmoglobin and the Bence-Jones proteid—could be excreted through the normal kidney without damage to it, and that therefore albuminuria did not necessarily imply kidney disease. The separation of pentosuria and lævulosuria, probably congenital anomalies, from glycosuria and diabetes was the direct outcome of chemical research. The variability in sugar tolerance in various diseased states was also a chemical investigation of great value. Various chemical methods were our main resource in disease of the pancreas. The new methods of blood analysis promised much for the further elucidation of gout and similar disorders. Further advance could only be attained by the closest coöperation between the clinician in the ward and the pathological chemist in the laboratory.

In the ensuing discussion various and widely different points were alluded to by the speakers.

Professor IVAR BANG (Lund) referred to the importance of the recognition of psychical glycosuria, Professor G. EMBDEN (Frankfort) to the relation of hyperglycæmia and the increased heat production owing to muscle breakdown, Dr. L. KRISTELLER (Berlin) to increased creatin excretion in dystrophia musculorum, Professor I. WALKER HALL (Bristol) to the doubtful value of blood from the basilic vein as an index of the blood as a whole, and Professor FRANZ FISCHLER (Heidelberg), Dr. W. H. HURTLEY (London), Dr. ROBERT BASS (Prague), and Dr. MACKENZIE WALLIS to various other points.

Dr. GARROD, in his reply, mentioned that he had tried atophan in a series of cases of acute gout, but had been compelled to revert to the use of the empirical remedy, colchicum.

MONDAY, AUGUST 11TH.

The subject for discussion was

The Chemical Pathology of the Alimentary Tract.

Professor G. BARGER (London) opened with a most interesting paper detailing our present chemical and physiological knowledge of the putrefactive bases formed in the intestine, to which had been ascribed of late a multitude of clinical symptoms. The group of which we had longest had knowledge were without physiological action or pathological significance. They were all derivatives of leucin, the well-known ones being cadaverin and putrescin. Another group, many of which had been synthesised, had marked physiological action, and consisted of the cyclic amino-acids, derived from phenyl-alanin, tyrosin, tryptophane, and histidin; one of these in particular, β-imidazol-ethylamine, commonly known as β-I., was derived from histidin, and had physiologically great depressor effect. Others were comparable to adrenalin in their marked pressor action. The question of the absorption of these substances from the intestine was, however, a different matter, and it was probable that even if absorbed they were almost entirely destroyed in the liver.

The other opener of the discussion, Professor O. COHNHEIM (Heidelberg) was at the last moment prevented from coming to the Congress, but his paper was read by Professor EMBDEN. He emphasised the difficulty of chemical investigations in the alimentary tract, because the secretions could not be separated from the altered foodstuffs also present. He dealt in the main with the question of the stomach and its secretions, and stated that in gastric catarrh a reduction of total acidity was usually present, that in gastric ulcer an increase of total acidity and hydrochloric acid were present, whilst in carcinoma either might occur. He also detailed experiments tending to show that the content of the small intestine had great influence on both the amount of secretion and the rate of emptying of the stomach. Complete removal of this influence by novocaine caused an extremely rapid emptying of the stomach, the residual secretion being strongly acid and containing much free hydrochloric acid. This might explain the hyperacidity found in certain classes of neurotic patients, in whom the suspicion of gastric ulcer was often aroused. The investigation of the small intestine was at present very unsatisfactory by the methods available. That of the large intestine was somewhat more possible by means of the examination of the fæces; though here the most important conclusions to be obtained were those of the failure of ferment action in the earlier parts of the alimentary tract. Here, again, a difficulty arose in that this incomplete digestion might be due to the too rapid passage through the intestine.

Dr. S. B. SCHRYVER (London) followed and questioned a statement of Professor Cohnheim that pepsin estimations in the gastric juice might be neglected if the hydrochloric acid was estimated. He had observed in alcoholics with dilated stomachs an entire absence of pepsin, though the hydrochloric acid secretion was normal.

Professor FOLIN stated that the intoxication occurring in dogs with Ecks' fistula was due to bases such as Professor Barger had described.

Dr. RYFFEL referred to the work of Arbuthnot Lane on intestinal stasis, and stated that bacilli had been obtained at operation from the small intestine capable of forming these toxic bases from histidin; control cases did not give these bacilli on culture.

Dr. KENNETH GOADBY (London) referred to cases with temporary enlargement of the liver, diarrhœa, and low blood-pressure which were probably due to the absorption of depressor bases.

In the afternoon a paper was read by Dr. ROBERT BASS (Prague) on Experiments on the Pathology of Gout; he concluded that gout was certainly in part due to a pathological kidney failure. Another by Dr. LUDWIG PINCUSSOHN (Berlin) dealt with the Influence of Light on Metabolism.

Papers by Dr. E. MELLANBY (London) on Creatin Excretion in Cancer of the Liver, and Dr. R. A. KRAUSE (Edinburgh) on the Excretion of Creatin in Children gave rise to a lively discussion. Professor FOLIN said that the frequent and variable occurrence of creatin in normal adults rendered its significance in disease doubtful. Dr. GEORGE GRAHAM (London) drew attention to possible fallacies in creatin estimations owing to the presence of aceto-acetic acid.

Papers by Dr. C. SINGER (London) on the Peptic Index in Carcinoma, and Dr. LAVIALLE (Paris) on the Effects of Brownian Movement on the Digestion of Milk Fat concluded the meeting.

TUESDAY, AUGUST 12TH.

A joint discussion was held with the Section of Physiology (Section II.) on the subject of

Endogenous Metabolism of Proteins.

Professor E. ABDERHALDEN (Halle) commenced by stating that protein metabolism could not be separated from that of fats and carbohydrates. He detailed his method of watching the conversion of polypeptides into other similar substances by the change of rotation in the polarimeter. It was thus possible not only to estimate the amount of the substances formed, but also their rate of formation. Amino-acids could now be isolated from the blood, and work in this direction would give us much greater insight into the utilisation of these substances by the cell. The juice of an organ contained ferments which split the albumins of that organ, but not of other organs; a notable exception to this rule was the juice of the kidney which could split the albumins of all other organs. The chemical changes between albumins and amino-acids were probably reversible actions.

The PRESIDENT read a paper sent by Dr. H. DAKIN (New York) dealing with the question of the possible formation of carbohydrates from proteins and *vice versâ*. The more simple representatives of both groups were in all probability the chief active constituents in the cell; the problem therefore resolved itself into the formation of glucose from simple amino-acids. Lusk had shown that the feeding of glycosuric dogs, emptied of glycogen by repeated phlorizin injections, by pure amino-acids, gave rise to the appearance of glucose

in the urine with some of them, with others to the appearance of acetone bodies. The writer had extended these observations to many amino-acids, and found that these divided into two groups, one causing glycosuria, the other acetonuria. He further brought forward evidence that the path of change from alanin and lactic acid to glucose was through methyl glyoxal, and that such reactions were all reversible. He had found that the conversion of methyl glyoxal to lactic acid was due to a ferment glyoxalase which was present in abundance in tissue extracts.

Professor EMBDEN, who followed, was also concerned with this interchange of proteins and sugars. Methyl glyoxal was undoubtedly a most important intermediary step in the conversion of alanin to grape sugar. All these actions were undoubtedly reversible, and many could be shown to occur in the liver by perfusion experiments.

Dr. E. P. CATHCART (Glasgow) considered that the evidence from perfusion experiments of isolated organs was not conclusive, as no attention was given to the correlations of organs.

Professor FOLIN thought they had more bearing on pathology than on physiology.

Professor E. ZUNZ (Brussels) described the results of digestion in the stomach of the dog, artificially ligatured at both ends.

Dr. W. CRAMER (Edinburgh) considered that carbohydrates were undoubtedly used by the fœtus in forming its tissues. This was therefore evidence of the building up of proteins from carbohydrates.

Dr. CLOWES (Buffalo) instanced experiments showing that carbohydrate starvation retarded the growth of cancer; carbohydrates must therefore be used in forming the cancer tissue proteins.

In the afternoon a laboratory meeting was held at the Lister Institute, at which the following demonstrations were shown.

Professor FOLIN: New Methods of Analysis of Blood and Urine.

Professor ABDERHALDEN: Pregnancy Test.

Dr. RYFFEL: Barcroft's Apparatus for Determining the Dissociation Curve of Blood.

Dr. HURTLEY: A New Test for Aceto-acetic Acid.

Dr. H. MACLEAN: The Influence of Various Substances on the Estimation of Sugar in Urine.

Dr. C. FUNK and Dr. A. B. MACALLUM: Colour Reactions of Certain Constituents of Food.

Dr. E. C. GREY: Apparatus for Collecting Gases in Bacterial Fermentation.

Dr. MACKENZIE WALLIS: The Blood in Sulphæmoglobinæmia.

Dr. J. W. TREVAN: The Clotting of Milk.

Dr. CLOWES: Charts Demonstrating the Similarity of Reaction of Certain Physical and Biological Systems to Electrolytes and Anæsthetics.

INTERNATIONAL CONFERENCE ON POST-GRADUATE MEDICAL EDUCATION.

During the progress of the Seventeenth International Congress of Medicine a conference on post-graduate medical instruction was held in the University of London on August 7th, under the auspices of the International Committee for Post-Graduate Medical Education. The following topics had been selected for reports and discussion:—(1) The present regular course of university education up to graduation (including examinations) and the legal provisions governing the whole course of study; (2) the relation in which university education stands to post-graduate education, and the present condition of medical post-graduate education; (3) the necessity for reform in methods of instruction in view of the importance of technical skill to the medical profession; (4) the importance of social medicine and its collateral branches as a subject for instruction within the compass of both regular and post-graduate medical education.

The speakers on the last two subjects had been chosen by the Board of the International Committee, while the reports on the first two subjects were designed as contributions to collective researches undertaken by the committee.

Sir HENRY MORRIS, in a paper on the Present State of Pre-graduate University Education and Examination, described the course of study and means of qualification in medicine which exist in this country. He explained the different methods of obtaining admission to the Medical Register, and pointed out that different standards of general education are required by the various licensing bodies. Referring to the later parts of the medical curriculum, he dwelt on the importance rightly attached in this country to practical work and direct clinical experience. Sir Henry Morris next outlined the powers and constitution of the General Medical Council, and showed how it exercised beneficial pressure upon both the teaching and examining bodies throughout the country. Finally, he advocated a "one-portal" qualification which should be essential for admission to the Register, while university degrees and higher qualifications should no longer be regarded as licences to practise.

Professor E. VON GRÖSZ (Budapest) presented a report on medical education in Hungary, in which he traced the progress of university medical instruction in that country, and described the present organisation of the medical faculty in the University of Budapest. After an interesting account of the medical curriculum and the system of examination for the doctorate in medicine, he passed on to the present arrangements for post-graduate medical instruction in Hungary which are under the control of a State-appointed central committee administering State-allotted subsidies for post-graduate teaching.

Dr. C. O. HAWTHORNE (London) then delivered an address on the Present Position of Post-Graduation Medical Education in the United Kindom, which is printed in full in this issue of THE LANCET.

Professor ROBERT KUTNER (General Secretary of the International Committee for Post-Graduate Medical Education, and Director of the Kaiserin Friedrich Haus in Berlin) discussed the aims and methods of university and post-graduate medical teaching, and explained the history and organisation of the Kaiserin Friedrich Foundation for Post-Graduate Medical Education in Germany.

THE MUSEUM.

(*Concluded from p. 497.*)

Chemical Pathology and Physiology.

The excellently arranged Section of Ophthalmology and the very representative Gynæcological and Obstetrical Section, with its large display of instruments, loaned mainly from the Royal College of Surgeons of England, rightly attracted much attention. From these sections we passed to the domain of Chemical Pathology and Physiology. Here, amongst other things, were to be found series of preparations illustrating different tissue lipoids; specimens of putrefactive amines obtained from proteins with tracings illustrating their physiological action—somewhat pertinent to the recent discussion on alimentary toxæmia; and various methods of performing chemical analysis of normal and abnormal constituents of body secretions and excretions. These tests were selected by the different exhibitors in virtue of their reliability. They were mainly simple in execution, were displayed in their various stages, and the letterpress dealing with their performance was clear.

It would be a boon if some disinterested body were to investigate and assess the value of such tests at the time of their publication. Wherever possible, standardisation of technique is as important as standardisation of drugs. If this were done, surely many of the descrepancies that so commonly occur when the same thing is done by different investigators would be impossible, and distrust in the method would not ensue.

This collection formed a novel departure and ably demonstrated the importance of this side of the clinical laboratory.

Tropical Medicine.

The systematic study of tropical disease can not boast yet of a very long existence, but it often provides us with the best examples of success in medical investigation. Where so many side issues are involved, where there may be two or more hosts and a cycle of developmental phases during the parasite's sojourn in each, where the carriers of disease are so important, where again Nature's myriads have to be sorted through to discover the culprit, and where cultural experiments are so difficult, it is often a cause for wonder that so much progress has been made.

Examples of intermediate hosts were numerous. Amongst

these may be mentioned the eggs, nymphs, and adult forms of Ornithodorus moubata (Spirochæta duttoni); pediculi capitis and vestimentorum, the intermediate hosts of the English variety of relapsing fever (Hindle); but, perhaps Bahr's specimens of filariasis illustrated best the intricacies of this type of research. The stegomyia pseudo-scutellaris was to be seen with the embryonic filaria in its body and actually on its proboscis. The micro-filaria was shown in the body fluids and its effects depicted, as were also those of the adult form on lymphatic tissue generally, where it was also shown dead and calcified. We were also reminded that filariæ occur in acute abscesses and lymphangitis. Fleas were shown acting as common lodging houses for B. pestis. In the preventriculus and œsophagus of Ceratophyllus fasciatus the bacillus thrived and multiplied, which is such an important factor in mouth infection. Some excellent museum preparations of the lesions caused by bilharzia infection came from Egypt. Amongst these were specimens of adeno-papilloma of the bladder and colon, periportal cirrhosis, and mucoid cysts of the ureter.

The books of drawings on view illustrating trypanosomiasis brought to mind the suggestion that all wild animals in the fly belts should be slaughtered. It is to be hoped that so drastic a step will be avoided until investigations on this subject are complete and beyond cavil. Indeed, it has been suggested that we might set a parasite to catch a parasite and attempt to discover whether or not an organism analogous in action to the ampusa muscæ or nosema apis cannot be induced to exterminate the glossina. The question of insect carriers in England also is of great importance. The house-fly is responsible for much, and now it seems that there is almost sufficient evidence to accuse it of having a hand in the spread of acute anterior poliomyelitis. At the present time pellagra is being investigated on the supposition that an intermediate host exists, the history suggested by Dr. Sambon's investigations being admirably illustrated in the magnificent Museum of Medical History, brought together by Mr. H. S. Wellcome.

Medical History.

The Museum in connexion with the Congress was not without its historical interest. Recent thoughts on the passivity of the flea in the presence of the plague bacillus were dispelled at the sight of the facsimiles of the surgical instruments used in the eighteenth century in the treatment of plague-stricken persons. These included bubo knives, probes, and cautery. There was also a forked silver stick for administering the last sacrament, so that the arrangements for salving these unfortunates were fairly complete. Close to the collection of obstetrical instruments was a cast of the first head delivered by turning under chloroform anæsthesia. What joy the procedure mus thave caused the operator.

Recent finds have stimulated modern man's interest in the origin of the human species. It was, perhaps, due to these that we owed the exhibition of skeletal remains which did so much credit to the President of the Museum Committee. They were often accompanied by objects, such as pottery, coins, and weapons, found in the same burial grounds which provided a clue to the period in which their original possessors lived. In the absence of such help the approximate date varied much with the opinion of the examining expert. Amongst these bones were several examples of pathological conditions. One skull showed a healed mastoid abscess, another hydrocephalus with exostoses of the external auditory meatus, and a third exhibit comprised the skull and long bones of an Egyptian who suffered from hydrocephalus and a left hemiplegia.

Internal Medicine.

In this section the work of the cardiologist was most conspicuous. The anatomist demonstrated the bundle of His injected with methylene blue in the heart of an ox; the comparative anatomist showed the same structure in the fish, lizard, tortoise, and bird; and the clinician explained the numerous anomalies caused by gross valvular mischief, and the sequence of events following finer changes in the musculature and conduction apparatus of the heart, using the histological and graphic methods. Here might be mentioned also a unique specimen of rupture of a papillary muscle due to an infarct.

In the Royal Society of Medicine's rooms was exhibited a splendid collection of specimens of endocarditis of bacterial origin which had been prepared at Mount Sinai Hospital, New York, and formed the subject of a paper on Infective Endocarditis.

In another place was a collection of specimens showing experimental endocarditis, vavular and mural, exhibited by Dr. Rosenow. These had been produced in rabbits by injecting them with streptococcus viridans, rheumaticus, &c. The importance of the internal glands was demonstrated by a series of illustrations of patients suffering from excess or deficiency of the various glands, and by examples from animals which had been deprived of these glands; these included skeletal structures, photographs, and radiographs. Of therapeutic interest in this connexion was a graphic representation of the changes in the leucocytes in cases of leukæmia which had been treated with benzol.

Tuberculosis.

Scattered throughout the Museum were many specimens dealing with this subject showing the etiology, the coarse lesions, the early foci, and experimental results. A large series of tuberculosis in bones was arranged by Mr. Harold J. Stiles, and adjoining a rare specimen of tuberculosis of the calvarium. Primary tuberculosis of the tonsils was illustrated by plates and histological preparations. Dr. Leonard Findlay contributed some striking examples of experimental lesions in rabbits which had been made to inhale and ingest tubercle bacilli. But of greatest interest was the collection of specimens illustrating the work of Professor S. Delépine, who for eight years and more has been studying the relationship of the various types of bacilli. His photographs showed the lesions in man, cattle, swine, horses, and birds. In addition there were 24 tuberculous guinea-pigs showing (1) the virulence of tubercle bacilli of human origin, bovine and animal; (2) effect of passage of avian bacilli through mammals; and (3) infectivity of milk of tuberculous cows with advanced disease of the udder. This exhibit forms a most important contribution to the question of tuberculosis, and Professor Delépine has proved that the avian bacillus may at times be markedly virulent to mammals by passage through animals, whilst, on the other hand, tubercle bacilli of bovine origin may by long keeping, heating, &c., have their pathogenicity considerably reduced.

Surgery.

Here the outstanding features were a large collection of specimens illustrating malignant disease of the large intestine by Professor W. Körte, and a splendid series of aneurysms from all parts arranged by Mr. James Berry and Dr. F. de Havilland Hall. These had come from all the London hospitals. There was also a specimen of half the lower lobe of the right lung, the seat of primary squamous bronchial carcinoma, which had been removed by operation; and another of the larynx (the seat of squamous-celled carcinoma), the pharynx, and the upper part of the œsophagus which had been successfully excised.

With this section must be included the specimens of experimental vessel anastomoses. Dr. Charles Goodman showed the late and satisfactory results of anastomosing the left renal to the right carotid artery in a rabbit, and in another case the renal vein to the external jugular.

In the Subsection of Urology was demonstrated disease of the prostate, a fairly complete collection of specimens of tuberculosis of every part of the genito-urinary tract, and one specially fine specimen, by Mr. Sydney Macdonald, which showed a primary squamous-celled carcinoma occurring in a congenital sacculus of the bladder, the sac being as large as the bladder itself.

Space will not permit of an enumeration of all the wonderful examples of radiology; embryology, with the ingenious reconstruction models of fœtuses at various ages, including the 13-day ovum of Bryce and Teacher; neuropathology, and even Lumière photographs by Professor Friedberger, demonstrating the various aspects of anaphylaxis in the lungs of rabbits, isolated frogs' hearts, with tubercle bacilli, with iodine, &c.; nor of stomatology or obstetrics. There was no doubt that each section had attempted to portray the most recent work in its own domain and with great success.

But we cannot neglect to mention specifically the work done by an increasing number of men whom the exigencies of modern pathology have raised to a definite and important position. We speak of those laboratory assistants who

by an intelligent coöperation have done so much towards furthering the scientific work, and have, indeed, raised the status of such workers from mere laboratory hands to scientific assistants. Foremost amongst these are Muir, of Edinburgh, whose beautiful transparencies and illustrations were exhibited; and Chopping, of Westminster, whose ingenuity has produced concentrated media in solid form ready for immediate solution, under the name of solmedia, which from the cultures shown is just as effective as the more cumbersome media, and also a novel and perfect form of shaker and an equally efficacious centrifuge.

We have seen many Congress Museums, but never one which has done so much credit to the organisers or given so much pleasure and instruction to the visitors. The only regret that must be expressed is that such a noble collection had to be dispersed at the end of the Congress.

ASYLUM REPORTS.

Hereford County and City Lunatic Asylum (*Annual Report for the Year 1912*).—The daily average number under treatment at this asylum was 503. There were admitted 74 persons. Of these, 37·8 per cent. had been ill for less than three months, and 10·8 per cent. between three and six months previous to admission. The duration of the mental disorder in the remainder varied from over six months to several years. The admission rate shows a slight fall, the decline being the first within 25 years. It appears that in all cases in which the patient's life-history could be satisfactorily obtained there was evidence of an antecedent predisposition to mental illness in the form of an unstable and defective nervous constitution, either inherited or acquired. The mean age of the admissions was, for males 44, and females 47·4, while 18·9 per cent. males and 21·6 per cent. females were over 60 years of age and 5·6 per cent. males and 13·5 per cent. females over 70. Mr. C. S. Morison, medical superintendent, writes that the increasing numbers of imbeciles and the progressive accumulation of the feeble and old leave only a very meagre proportion in the resident population who can be usefully or profitably employed. It is a deception to suppose that persons sent out in gangs merely to have their time occupied can give the economical output which their numbers would suggest. Among females it is also a noticeable feature how few can now be employed at useful domestic duties. Every old working hand that drops out becomes more and more difficult to replace, particularly in the laundry and kitchen. This incapacity is largely attributed to faulty education at home and at school, where no domestic economy is taught. The number of persons discharged was 27, 16 of whom were recovered, giving a percentage of 23·3 on the admissions. The deaths numbered 44, the rate on the daily average number resident being 8·7 per cent. The mean age at death was 61 years for males and 64 for females.

Down District Lunatic Asylum, Downpatrick (*Annual Report for the Year 1912*).—At this asylum the average daily number resident was 753. The cases admitted numbered 130. Mr. M. J. Nolan, resident medical superintendent, draws attention to the large part played in the causation of insanity by bodily disease associated with hereditary predisposition. He further emphasises the variation in type which has become so pronounced in recent years. This alteration in the general character of current mental disease, as contrasted with the facies it presented some generations ago, is very remarkable. The combination, so common in old days, of wild unreasoning mania, associated with extreme physical violence, is now the exception, the vast majority of cases showing different degrees of mental weakness associated with bodily debility. Hence the demand in asylums to-day is for hospital wards and comparative freedom in and out of doors. The attendants are called upon to combat disease, not by acting as "brute force" adjuncts to mechanical restraint, but by exercising careful nursing for the broken-down health, and a guiding intelligence capable of circumventing the suspicion, depression, and active suicidal tendencies which combine to give the leading features to the insanity prevalent to-day. The discharges numbered 62, and of these 58 were recovered, the recovery rate standing at 44·6 per cent. The number of deaths was 49, the percentage of deaths on the daily average number of patients resident being 6·6. Post-mortem examinations were made in 9 cases.

Monmouthshire Asylum at Abergavenny (*Annual Report for the Year 1912*).—The total number of cases under treatment during the year at this asylum was 1287, the average daily number on the registers being 1052·11. There were admitted 383 patients, of whom 177 were males and 206 were females. Seventy-three patients were discharged, and of these 57 were recovered. The rate for the year, calculated on the total number of direct admissions, was 35·6 per cent. The deaths numbered 67, and the rate, calculated on the average number resident, was 6·3 per cent. As a consequence of this low rate, and the fact that the rate has been low for some years past, there has been an accumulation of old and feeble patients, whose deaths may at any time cause the death-rate to mount up to considerably above the normal. Among the certified causes of death general paralysis accounted for 13·4 per cent., phthisis pulmonalis 46 per cent., diseases of the circulatory system 15 per cent., and diseases of the respiratory system 18 per cent. In their report the Commissioners in Lunacy mention that the entries in the case-books might well be fuller, but they add that it is scarcely fair to press for this, having regard to the fact that, for so large a number of patients, there are only two assistant medical officers.

Warneford Hospital for Mental Diseases, Oxford (*Annual Report for the Year 1912*).—The total number of cases under treatment during the year was 120, the average daily number on the registers being 98. Nineteen certified patients were admitted, and 3 men were received as voluntary boarders. Melancholia predominated as a clinical type among the admissions, 3 men and 5 women suffering from this condition. Two men and 1 woman were suffering from mania, 1 man and 3 women from systematised delusions, 1 man from chronic secondary dementia, 2 from adolescent insanity, and 1 man from senile dementia. Hereditary tendency was admitted in 4 cases. Dr. James Neil, medical superintendent, points out that this figure as usual does not represent the real amount of influence exerted by this factor. After a patient has been in the hospital for some time opportunities are generally afforded of observing the temperament of the relatives who come to visit him, and in a good many cases these observations reveal the source of the insanity. The recoveries numbered 8, the percentage calculated on the direct admissions only being 50. The deaths numbered 6.

Bucks County Lunatic Asylum, at Stone (*Annual Report for the Year 1912*).—The total number of cases under treatment during the year was 836; the daily average number on the registers being 697. 137 patients were admitted, this being the lowest number since 1905, and 61 less than the number admitted during 1911. Of the number admitted, 30 had suffered from previous attacks. 12 of those admitted were congenital imbeciles, 6 suffered from epileptic insanity, while only 3 men were admitted suffering from general paralysis. Twenty-one senile cases were received during the year, while of the patients remaining at the end of the year 10 per cent. were over 70 years of age. Insane heredity was ascertained in 39 cases and a history of alcoholic excess in 16. Eighty patients were discharged, of whom 61 had recovered, giving a recovery rate of 46 per cent. on the admissions. The deaths during the year numbered 61, giving a death-rate of 8·8 per cent. of the average number resident.

Kesteven, Lincolnshire, County Asylum (*Annual Report for the Year 1912*).—The total number of cases under treatment at this asylum during the year was 546, the average daily number on the registers being 456. Ninety-six persons were admitted, and of these only 30 per cent. were deemed curable. Hereditary predisposition again appears to be the most common of all assigned causes, being indicated in nearly 43 per cent. of the admissions. On the other hand, alcoholism could only be traced in 3 cases. Forty patients were discharged, 21 as recovered. Of the 21 who recovered, 19 were discharged within a year of admission. The deaths numbered 49, being at the rate of 10·74 per cent. on the average number resident.

THE LANCET.

LONDON: SATURDAY, SEPTEMBER 6, 1913.

Post-Graduate Study.

AN International Conference on Post-Graduate Study was held in London on August 7th in connexion with the International Medical Congress, and the proceedings were made interesting because of the inclusive nature of the debates. Too often by the phrase "post-graduate study" we imply merely the facilities which are placed in more or less profusion at different medical centres before the general practitioner to enable him to keep himself up to date in the theory and practice of his profession. That this is, an all-important part of post-graduate teaching is certains but the International Conference went further, as was proper, and took into consideration under different heading the relationship of the educational curriculum of the student to the courses of instruction that should be delivered to that student later, when he is qualified. This is a way of regarding the subject that will be new to those of our readers who are not aware of the work done at the Kaiserin Friedrich Haus in Berlin, the institution which is the official headquarters of the International Committee on Post-Graduate Education. This institution, which was founded in memory of that very remarkable woman the Empress FREDERICK, is not only the headquarters of the Central International Committee, but is also a large organising bureau for post-graduate instruction for Germany; and in its constitution we can see how thoroughly our German neighbours have appreciated, and how practically they have acted upon the truism which only last week we used as a text for an address to those entering the ranks of the medical profession—viz., that the medical man is always a student. With the Kaiserin Friedrich Haus as the centre of instruction, a course is arranged for medical practitioners both in general and special work throughout the whole German Empire, there being attached to the institution a loan department for all the apparatus that can be required for systematic or clinical lectures, as well as a permanen museum for the exhibition of the professional armamentarium. We are far away in this country from any such conception of the value of post-graduate instruction, and it behoves those who have charge of our medical education to profit by the lessons of the International Conference on Post-Graduate Instruction.

We publish in another column the address delivered to the International Conference by Dr. C. O. HAWTHORNE, who is so alive to our national deficiencies with regard to post-graduate education that he seems to us almost to minimise the facilities which we do provide. In particular we think that he does imperfect justice to the amount of post-graduate instruction which is being given in London at the present day, though, as one practically concerned in the giving thereof, he is speaking from personal knowledge. In a special article upon post-graduate study in the country, which, like Dr. HAWTHORNE'S address, will be found in this issue of THE LANCET, we give an epitome of the procedure followed with regard to the general study of professional subjects, and the special study of some branch of surgery or medicine, by those who have completed their statutory curriculum, while it should be premised that in addition to the facilities there described many of the educational centres have made provision for instructing medical graduates in State medicine and tropical medicine.[1] We agree with Dr. HAWTHORNE that the position in London is not wholly satisfactory, but it is as good as that in any British or Irish medical centre, with the possible exception of one. As a matter of fact, we all expect the metropolis, out of deference to its enormous size and wealth, to be pre-eminent in any matter requiring organisation and money, while, equally as a matter of fact—and many recent circumstances go to show it—London, on account of its size, labours under grave disadvantages. Whether it is a medical, an educational, or a purely social position that requires to be dealt with, London is at once placed in the grave difficulty that she is not a city but a congeries of cities, with varying interests in different centres, and huge populations of different foreign nationalities. Organisation is much complicated by these circumstances, as well as by the distances over which operations have to be conducted; and while we admit that London, both as a port where all diseases may obtain introduction and a city wherein a population large enough to make up a nation abides, offers the finest field in the world for post-graduate study, we see the difficulty of profiting by the advantages offered. As the centre of post-graduate medical education London in proportion to her opportunities and responsibilities can hardly be considered a success; and yet in our epitome of the facilities offered for post-graduate study in London alone we find that no less than 13 general and nine special hospitals are at the disposal of the post-graduate student, while some of the medical men holding clinics and giving instruction at the various centres are authorities in their subjects known far beyond the walls of the special institutions to which they may happen to be attached. The fact is that in London all that is required is a coördination of the extensive facilities. For this purpose Dr. HAWTHORNE suggests that one of the general hospitals might well become the clinical centre of an organised post-graduate scheme, and, having regard to the fact that the supply of medical students at certain of the metropolitan hospitals is quite small, the proposal appears to be an economically sound one. But the difficulty of the position of the honorary staff of such a hospital is one that cannot easily be overcome. It is necessary that a hospital, if it is to be a genuine centre of London post-graduate instruction, should welcome to its platforms all effective teachers, in which case the medical staff of the hospital might be placed in an invidious position. They might find that the clinical or scientific education, which was being carried on at the institution where they held official

[1] See the Students' Number of THE LANCET, August 30th, 1913, pp. 686–94.

posts, was falling into the hands of lecturers and demonstrators unattached to the charity in any official capacity. We do not see how the difficulty suggested—and its probability is very obvious—would be met without some ill-feeling somewhere. We doubt whether Dr. HAWTHORNE'S proposal will find any quick realisation.

The essential thing is that the International Conference on Post-Graduate Medical Instruction has recognised that the recently qualified medical man ought to be reinforced, from the very beginning of his career as a practitioner, with opportunities for continuing the study of his profession. This is a new lesson, in so many words, in this country, where post-graduate teaching has been rather directed towards helping certain qualified men who desire special instruction for some particular end. All organisation for post-graduate instruction should provide facilities for practitioners regularly to revise their knowledge, to learn the technique of different operations or the chemico-physiology of certain proceedings, and to hear, if possible with the actual clinical material before them, the reasons why those who are placed in some advantageous position for the acquisition of knowledge, make certain diagnoses or recommend certain courses of treatment. It is extremely valuable that the officers of the various services, whose duties take them into all parts of the world, should have places where they can obtain instruction in tropical diseases before visiting the tropics; and the developments of State medicine, both in sanitary and educational directions, make it necessary that an increasing number of qualified medical men should supplement in these directions the knowledge obtained through their ordinary curriculum. But the lesson of the International Conference on Post-Graduate Medical Instruction has been that all medical practitioners have a right to expect facilities for keeping themselves abreast of scientific strides in medicine.

Anæsthetics in 1881 and 1913.

THE work done during the International Congress in every section or subsection offers material for comment, as might be expected having regard to the success of the gathering as a whole. In the subsection devoted to anæsthetics and analgesia the progress made during the period between 1881, when the twelfth gathering was held in London, and 1913 was especially marked. The whole subject during the generation which has expired has cast off much of its unscientific trappings, while its exponents from across the seas equally with those who are British can lay claim to pursuing their work along lines more or less scientific. The scope of anæsthesia as we know it to-day is so far wider than it was in the times of SIMPSON and of CLOVER that an entirely different language is used in describing the results and the procedures. Practically, nitrous oxide, ether, and chloroform, given by the simplest apparatus or without any at all, formed the armamentarium of the whilom anæsthetist, and no separate section was allotted to discussions of the subject. At the recent Congress the subject was reckoned of sufficient importance to obtain its inclusion as a subsection, and to tempt into its arena such distinguished pioneers of new developments as M. TUFFIER, of Paris; Professor HEINRICH BRAUN, of Zwickau; Professor L. BURKHARDT, of Nürnberg; and that eminent scientist, Dr. S. J. MELTZER, of the Rockefeller Institute.

In the light of the work done during the Congress intraspinal anæsthesia, as systematised by M. TUFFIER, assumes a more reliable shape than a few years since many were inclined to believe it would do, and Professor BRAUN'S unique work on local analgesia, recently revised, has carried the subject a long way towards completeness. Again, the methods of introducing anæsthetics into the system have been quite revolutionised? The avenues of entry have been famously added to. Professor BURKHARDT has demonstrated the practicability of intravenous infusion of ether, hedonal, isopral, and other narcotics, and Dr. MELTZER'S exhaustive experiments have not only enabled the anæsthetist to convey ether directly to the bronchi by an intratracheal method, at the same time supplying a simple and safe means of obtaining *plus* pressure in the lungs, but the dangers of the inspiration of foreign matters into the air passages are also completely removed. Surely these procedures, even as we know them at present, mark a great stride forward in the anæsthetist's art. It is a matter of no small congratulation that the discussions upon these subjects revealed the fact that English anæsthetists have already adopted and practise these innovations, and have in some instances improved the technique by simplifying apparatus and methods. In other directions progress no less gratifying has occurred. In the days of SNOW and PAUL BERT, as in those of our own, fierce have been the contests about the dangers of anæsthetic agents. There have been those who delighted to say "I am of PAUL," and in response we heard "And I of APOLLOS"; the chloroformists *versus* the etherists, the heart failure men against those who believed dangers arose alone from respiratory failure. To-day we find that such questions can be, and indeed are, put to the test of experiment. The anæsthetist no longer confines his attention to the circulatory and respiratory systems; he recognises that metabolism may be profoundly and deleteriously affected by his agents, and his endeavour is to obtain all the good he can from his anæsthetics and rob them of their potential evils. All methods adopted to prevent pain, whether those connected with inhalation, with spinal anæsthesia, or with local analgesia, are subject to the disability that they may produce shock, even though in their intensive action it may have been their beneficent rôle to abrogate shock due to surgical trauma. Alike as synergent to anæsthesia and as means of abolishing this shock are the employment of alkaloids and the combining of general anæsthetics with local conductive analgesia; and these complex systems have found expositors in Dr. CRILE and Dr. GAUSS, both of whom are recognised as originators of special methods. Certain anæsthetics are held to be provocative of shock, so that nitrous oxide associated with oxygen is preferred by some surgeons. The technique of their use in major surgery has been worked out by Dr. TETER, and his report and description of his modified apparatus proved how scientifically such schemes are now

elaborated. It was one of the marked features of the work of the anæsthetic subsection, and it is a hopeful sign for the future progress of anæsthesia, that the most complex systems were readily accepted even by those prone to be conservative in a department of practice which has until of late years been inclined towards inaction and lack of initiative.

The lessons set before the members of the subsection will lead to developments, for those who devote themselves to the important subject of anæsthetics will now have a wider range of method and a more accurate technique. Surely the experienced anæsthetist with such a wide choice of agents, if he has mastered the technique of the multifarious methods of administration, must be far more favourably placed than was his predecessor who practised in 1881.

Annotations.

"Ne quid nimis."

PELLAGRA INVESTIGATION COMMITTEE.

AT a meeting of the Pellagra Investigation Committee, Dr. Dawson Williams in the chair, held on August 22nd, Dr. L. Sambon explained to the committee the work he had done lately in regard to pellagra, and also informed the committee that he was on the eve of starting for the West Indies to investigate the prevalence of the disease in those islands. It is well known that Dr. Sambon has contested the truth of the maize theory of the etiology of pellagra, and the fact that the disease has declared itself in the British Isles would seem to show, without any other epidemiological or experimental inquiry, that eating maize cannot be at least the only cause of pellagra, seeing that maize is not consumed, or but sparingly consumed, in Britain. Some 40 or 50 cases are believed to exist in England and Scotland, of which number over 20 have been actually seen and diagnosed by Dr. Sambon. The first case known in England dates only from October, 1912, so that as in 10 months' time a considerable number of cases have been already found, it is possible and highly probable, when medical men become better acquainted with the signs and symptoms of this disease, which is presumably new to Britain, that many more cases will be brought to light. We publish notes of several cases of English occurrence of pellagra in this week's issue of THE LANCET, which sufficiently show the necessity of practitioners being alert to detect the symptoms. Dr. Sambon is going by invitation to the United States of America to confer with experts on pellagra, for in that country within the past few years pellagra has developed into a scourge, some reports placing the number of pellagrins in the States as high as 50,000. The presence of pellagra in a country throws a great strain upon the lunatic asylums, for most pellagrins find their way thither as the disease gains a hold upon them. The committee conveyed a cordial vote of thanks to Mr. H. S. Wellcome for the help he had given in the past, when he generously came forward and paid the expenses of the field commission, consisting of Dr. Sambon and Dr. A. Chalmers and others, when they visited Southern Europe in 1912 and brought home a wealth of information concerning the epidemiology of pellagra. Mr. Wellcome has again shown his interest in this scientific investigation by placing Dr. Sambon's services at the disposal of the committee free of all charges.

THE WORK OF THE GOVERNMENT LABORATORY FOR THE PAST YEAR.

THE work of the Government laboratory now has reference to many Governmental departments, whereas in the old days the laboratories at Somerset House were kept busy on questions of inland revenue, and of disputes as to whether the conclusions of the public analyst in connexion with the Food and Drugs Act were well founded. The annual reports now record the results of a number of samples referred to the laboratory from practically all the Government offices, and the work done in this connexion must be considerable and of value to the departments concerned. In the report recently issued, which deals with the year ended March 31st, 1913, the various official departments show an increasing appreciation of this work, judging from the analytical returns given; and besides, there is a considerable amount of consultative and advisory work involved. Altogether the number of samples examined in the course of the year shows the large increase of 14,332 over that of the previous year, the totals for the two years being 209,502 and 195,170 respectively, exclusive of the samples examined at outlying chemical stations. Amongst matters of interest to our readers may be mentioned the following. The total number of samples of beer and materials used in brewing was 815. Of these, 16 were found to contain arsenic in excess of the limits laid down by the Royal Commission on Arsenical Poisoning (1/100 grain of arsenious oxide per pound in the case of solids or per gallon in the case of liquids). In the examination of ciders many were found to be entirely free from fermented apple, and were, in fact, simple solutions of sugar aerated, flavoured, and coloured. The presence of spirit was established in samples of liqueur chocolates, six containing proof spirit ranging from 5 to 8 per cent., and in two cases the amounts were 23 and 27·4 per cent. respectively. Of the total number of samples of tea submitted to analysis 982, representing 73,355 pounds, were condemned as containing sand or other foreign matter, and 15,941 pounds additional were reported as unfit for human consumption. These samples are obtained at the port of entry by special inspectors appointed for the purpose. It is not suggested that this adulteration was intentional, and although the quantity rejected was large, it is quite insignificant in relation to the total amount of tea imported, which was no less than 359 millions of pounds, an increase of 12 million pounds on the total of the previous year. The 1578 samples of coffee examined proved to be genuine. Of matches examined two lots were refused admission as they contained white phosphorus. On the whole, no serious indictment could be made against imported milk products. Occasionally there were samples showing a deficiency of fat, but a large number showed the presence of added colouring matter. The Home Office regulations in regard to the manufacture of pottery glazes appear to be carefully observed, it being agreed to restrict the use of "soluble" lead in many cases. An interesting investigation was undertaken for the Local Government Board in connexion with the Old Age Pensions Act. The Act requires, of course, the age of the applicant to be clearly established. In the absence of the Registrar-General's certificate reliable evidence as to age is sometime obtained from entries of the date of birth in old Bibles or prayer-books, from names and dates written in books received as gifts in childhood, and from marriage certificates and other documents. In a few cases there is reason to suspect that entries of this character produced as evidence have been made recently or that the original entry has been altered for the purpose of deceiving the authorities. In the course of last year 11 documents were submitted for examination on account of their suspicious appearance,

and in six of these cases it was found that the writing was of recent date or that it had been recently tampered with. This is an interesting example of "base uses" being revealed by chemistry. In regard to samples referred under the Sale of Food and Drugs Acts when the public analyst's conclusions are impugned, the results of the examination at the Government laboratory differed from those of the public analyst in five cases out of 91 in respect of which certificates were issued. This points to an efficiency of the analytical service which must be considered satisfactory. We note that in spite of the conclusions of the Royal Commission on Whisky and Potable Spirits samples are still examined by chemical analysis under the Food and Drugs Acts. Thus, a sample of brandy was alleged to contain spirit other than that derived from the grape. It was found by the Government chemist "to be deficient in the characteristic constituents of brandy to such an extent as to indicate the presence of a large proportion of neutral spirit." But the Royal Commissioners concluded "that the application of the term 'brandy' in this country cannot be controlled by the nature of the apparatus or *process used in the distillation of the spirit*." The italics are ours. The Government chemist clearly thinks differently. It would be a public advantage if the Excise authorities would coöperate with the Government chemists more actively than they do in regard to the question of the misdescription of spirits. Altogether this report is a most interesting public document. It must be remembered that it has no reference to the general question of public food-supply, for a department, now controlled by the Local Government Board, issues reports from time to time of the utmost value to the public analytical services in this direction.

RARE CAUSES OF HÆMATEMESIS.

UNDER the term "vomito negro appendiculaire," a term calculated to upset the equanimity of the verbal purist, Dieulafoy has described a very rare complication of appendicitis—hæmatemesis. In the *Australasian Medical Journal* of June 28th Dr. R. B. Duncan has reported an example. A publican, aged 30 years, was attacked one evening with pains confined chiefly in the right lower quadrant of the abdomen and severe persistent vomiting. These symptoms continued until he was seen early next morning by his medical attendant, who administered a hypodermic injection of morphine and ordered hot fomentations. These measures gave considerable relief. Dr. Duncan saw the patient in the afternoon when he was complaining bitterly of the pain. The tongue was coated and dry at the edges, the pulse was 110, and the temperature was 102°F. The abdomen was uniformly distended and rigid. The rigidity was most marked in the right lower quadrant, which was exquisitely tender. Rectal examination was negative. Early on the following morning the abdomen was opened by the McBurney method. The appendix was so bound down by adhesions that the incision had to be enlarged. The appendix was kinked in two places. It was removed and the base was crushed and buried in the usual manner with a purse-string suture. Vomiting commenced before the influence of the anæsthetic had worn off, and continued during the whole of that day and the following day. On the morning of the third day the vomit began to assume "a suspicious colour" and the stomach was washed out. For the rest of the day the patient felt much more comfortable. During the succeeding night the vomiting was almost continuous, and the vomit assumed a coffee-ground appearance. The stomach was again washed out and unmistakable evidence of hæmorrhage was obtained. At this time the general condition was fairly good. Afterwards the vomit consisted chiefly of dark clotted blood. In addition to further washing out, various drugs were tried without avail. On the seventh day the patient vomited a huge, very black, and somewhat firm clot, became collapsed, and died. At this time the wound had soundly healed, the bowels had acted well, and the abdomen was soft. A necropsy is not described. At the middle of the appendix was a stricture that obliterated its lumen, and distal to that was a bulging which contained a thimbleful of fluid fæces. A smear from this was stained and showed the colon bacilli in almost pure culture. In his "Manuel de Pathologie Interne" Dieulafoy has described several cases of hæmatemesis complicating appendicitis, due to minute erosions of vessels lying under the gastric mucosa. He thinks that when the appendix is strictured or closed in any part of its course the contained microbes become exceedingly virulent, giving rise to a general "toxi-infection," to which he attributes the erosions. Most of the cases were fatal. We may point out that this form of hæmatemesis appears to be pathologically identical with a condition which has received attention only in recent years—post-operative hæmatemesis. However, the hæmatemesis associated with appendicitis may occur before as well as after operation. A short time ago an important paper on Gastric and Intestinal Hæmorrhages after Operations was read at the Royal Society of Medicine by Mr. Jonathan Hutchinson.[1] He reported a number of cases from the records of the London Hospital showing that hæmorrhage into the stomach and intestine, due to small ulcers or erosions, may develop after an operation, usually abdominal (many of the operations were for appendicitis). In 80 per cent. of the cases a severe septic infection with secondary anæmia was present before the operation. Similar lesions were found in certain cases of disease in which no operation was performed. Mr. Hutchinson held that a profound alteration in the blood, due in most cases to toxins of septic origin, was the chief factor in the production of the erosions. In our correspondence columns this week Mr. C. Gordon Watson has reported a case of hæmatemesis due to another comparatively unrecognised cause—thrombosis of the splenic vein. He also has suggested that some cases of post-operative hæmatemesis may be of this nature.

A FIFTEENTH CENTURY MEDICAL MANUSCRIPT.

IT appears that Monseigneur de Clèves and Monseigneur de Croy, representatives of Philippe-le-Bon, Duke of Burgundy, were taken ill during their stay in Mantua, and Francis Sforza, Duke of Milan, placed them in the care of his physician, Guido Parato, who, on the recovery of his distinguished patients, sent by them as a present to their master a manuscript entitled "Libellus de Sanitate Conservanda." This the Duke placed in his library at Bruges and ordered a French translation to be made. This translation, which is now in the Bibliothèque Impériale at St. Petersburg, has been made the subject of an interesting paper read to the Société Française d'Histoire de la Médecine by Dr. Wickersheimer. Although of no scientific importance, the manuscript appears to be an interesting specimen of fifteenth century calligraphy, and consists of 132 leaves of parchment, with illuminated initials, encadrements, and the arms of the Duke of Burgundy. It also has a fine miniature representing the physician Guido Parato kneeling before the Duke and presenting him with a book. But the work is not original. It is based on the "Regimen Sanitatis" of Magnino de Milan, whose prescriptions were almost all copied textually by Parato. Many things were also borrowed from the "Regimen Sanitatis" of Arnold de Villanova. Concerning these two writers, to

[1] THE LANCET, Dec. 17th, 1910, p. 1761.

whom Parato never once refers, although his references to ancient writers are conspicuous, medical historians have been at variance regarding their connexion one with the other. From a note in the Surgeon-General's catalogue we read: "It is claimed by some authorities that Magnino was a pseudonym under which Arnold de Nova Villa wrote 'Regimen Sanitatis.' Others say he was a physician of Milan in the thirteenth century, and an extensive plagiarist from Arnold." And in the British Museum Catalogue we find a bibliographical note to the effect that the "Regimen" of Magnino is really the work of Arnoldus, but with alterations, transpositions, and additions by Magnino. Concerning Magnino, little seems to be known, and the more important medical biographies, dictionaries, and histories contain no account of his life. His name is not to be found in the "Biographisches Lexikon der Hervorragenden Aerzte" or in the index to Neuberger and Pagel's "Geschichte der Medizin." Needless to say, the name of Guido Parato does not appear either. Whatever may have been the case in the work of Magnino, it is evident that Parato looked upon plagiarism as no new sin. Dr. Wickersheimer thinks it is not probable that this mediocre compilation will ever meet with an editor. Nevertheless, unearthing early manuscript treatises of medicine and making their nature and contents known is one of the functions of any medico-historical society. Medical manuscripts of that period are not so numerous that the bibliographer and historian can afford to ignore them.

GYMNASTIC APPARATUS IN PUBLIC PLAYGROUNDS.

AN accident which took place recently at Norwich in a public recreation ground known as the Chapel Field Gardens, and apparently maintained by the corporation, should serve as a warning to public authorities, and indeed to all other bodies and persons, who provide playgrounds for children furnished with swings and other apparatus for their amusement. The facts of the case referred to were proved at the inquest held upon George Graver, a little boy 10 years of age, who met with his death through the pole of a "giant's stride" snapping two or three inches below the ground while he was amusing himself upon it. Several other children had been using it with him, but a little girl, also aged 10, who must be congratulated upon her intelligence, stated in the witness-box that she heard the pole crack, realised the danger, and with the others, except the deceased, desisted. She then called to Graver, telling him that the pole might fall, but he, boy-like, persisted alone, with the result that when the shaft collapsed, which it did almost immediately, it descended directly upon him, fracturing his skull. He was conveyed at once to the hospital in a motor-car which happened to be near, but was found on his arrival to be already dead. The coroner's jury was naturally anxious to have particulars as to the condition of the pole and as to the amount of care taken to ascertain its suitability for its purpose. It had been erected in 1902 in a subsoil of gravel and sand, and recently (two years ago) had been plated with iron near the ground to protect it from the blows of the rings held by the children when swinging. On the ground round the foot there was asphalt sloping outwards and designed to prevent the accumulation of water. The height of the pole was 18 feet above ground, with 6 or 7 feet below; its diameter was 10 inches at its visible base, the portion below the surface being about 10½ inches square. So recently as a fortnight before the accident a man had ascended it to grease the iron fittings at the top and had noticed nothing wrong, but it was not found at the inquest that any other form of inspection had been used or that any direct tests of its stability had recently or habitually been employed. The evidence of the deputy city engineer was to the effect that such a piece of wood might be expected to remain in use without danger for 15 or even for 20 years, and that the gravelly and sandy nature of the ground in which it was set had been relied upon to minimise the decay which in fact had taken place. The jury, after a discussion with the coroner, which emphasised their opinion that more care should have been taken, found a verdict "that the deceased died from injuries to the neck and skull caused by a maypole swing at Chapel Field playground accidentally falling upon him whilst swinging thereon, the maypole being in a defective condition, and that there has been neglect on the part of the corporation in not having the pole properly tested." With regard to the position of the Norwich corporation in the case of this particular accident it may be better to abstain from comment because there is an obvious possibility that that body may be called upon to consider the question of civil liability to the child's parents. Upon the general question, however, of such playgrounds as the one in question, it may be pointed out that maypoles, or giant's strides as they are usually called, swings, trapezes, climbing ladders, and horizontal and parallel bars offer an appreciable amount of opportunity to children to injure themselves without such opportunity being increased by latent defects in the apparatus itself. In gymnastic exercises where apparatus is used there is usually the possibility of a more or less dangerous fall, and in the case of swings, including the maypole or giant's stride, there is the additional and more serious risk of one child being injured by getting in the way of another. These dangers are increased when the appliances in question are used without any restriction by children of various ages and subject to no kind of discipline. Accompanied by a measure of adult supervision they may afford means of healthy recreation, but the benefit obtainable from them will always be increased in proportion to the amount of supervision and instruction in their proper use that is provided with them. Without any such supervision the best that can be said of them, perhaps, is that they will still tend, but less markedly, to cause boys and girls to exercise their muscles, and to learn to use care and accuracy of movement, as well as consideration for others in order to avoid causing injury or being hurt. The other matter, however, is outside the province of childhood, and the young are pretty sure to trust with the confidence of youth appliances with which their elders supply them. Fortunately, a little care on the part of those elders will practically insure the stability of gymnastic apparatus such as that generally in use, when the users are children. Steel cores can be employed in wooden articles likely to be submitted to intermittent strain or subjected to conditions likely to cause decay, and ropes when used are generally more or less exposed to view, but it is not necessary to trust to the inherent strength of the article nor to rely exclusively upon inspection. If the apparatus is meant for the use of a child or children it is not difficult or dangerous for a man (or perhaps more than one man) to apply to it a test of its strength considerably exceeding the normal strain to which it will be subjected. It is not necessary to examine a pole under ground in order to see to what extent moisture has caused it to rot, when it is easy to ascertain by using the strength and weight of adults intelligently whether it is substantially sound or dangerously weak. Education authorities have before now been sued in respect of school playgrounds when the negligence alleged has consisted in an irregularity of the ground which has tripped a boy up and caused him to fall, so that they, as a rule, are probably watchful against danger. Those, however, who

provide playgrounds and open air gymnastic appliances for their own children or, out of benevolence, for those of others are not always so careful to render them safe. Swings in particular are liable to be kept in use with frayed or rotten ropes, and often, particularly in private gardens and grounds, or where they are only meant to be temporary, are fixed with little regard for the effect of inevitable friction. It is possible, without incurring the charge of a desire to molly-coddle the rising generation, to suggest that there is a happy medium attainable between that condition and being too casual in the provision and supervision of gymnasiums.

STATE INSURANCE AGAINST SICKNESS IN GERMANY.

THE international Esperanto medical review, *Kuracisto*, publishes in the August issue an interesting article by Dr. Karl E. Weiss, of Stuttgart, on Medical Men and State Insurance against Sickness. After discussing the social and industrial conditions which have been responsible for the introduction of State insurance in Germany, he refers to the new insurance law which from Jan. 1st, 1914, will considerably enlarge the scope of the existing law and compel some 80 per cent. of the inhabitants of the large towns to become insured. While admitting the benefits which the labouring classes receive through insurance so far as physical health is concerned, he states that there is often a lessening of personal and moral responsibility, while malingering, as might be expected, is an evil which attaches to the German insurance system as well as to our own. The effect of the law is frequently to overwork the medical man, who is insufficiently remunerated for his labours. Moreover, the number of medical practitioners has increased beyond the needs of the population, and the difficulties of earning a livelihood have been aggravated. Dr. Weiss attributes to compulsory insurance three consequences: (1) the insured person consults the medical man for trivial matters, and interferes with the medical man's small chances of leisure during the evening, on Sunday, and so forth; (2) the patient unnecessarily multiplies the number of his visits; and (3) confidence and good feeling between the patient and the medical man are destroyed. The writer also points out that the greater the number of persons insured by the State the more limited becomes private practice. It has occurred, he says, that even the sons of millionaires have made an appointment by telephone, arrived in their motor-cars, and, after the consultation, have taken out of their pockets their insurance cards and handed them to the medical man. As servants in their father's factory they have the legal right to be insured, but we can hardly believe that this violent instance of misuse of the law has occurred with any frequency worth mentioning. The ordinary private patient, too, comes under the lure of free treatment and makes efforts to become a member of the insured class. Another disadvantage from which the medical man suffers is the fact that, as the larger part of his patients form an organised body, he by himself is powerless against such organisation, which dictates to him its conditions and endeavours to profit by the competition engendered by an overcrowded profession. All the evils of the past, Dr. Weiss says, will be augmented by the new law, and he is inclined to think that possibly sooner or later the whole nation will be compulsorily insured and the medical man, willingly or unwillingly, will become a State official. From the medical standpoint he thinks that this is not desirable, because it will do away with the freedom of medical treatment and hinder the progress of scientific medicine. Dr. Weiss has long held the opinion that all the existing evils of State insurance in Germany would disappear if insurance did not cover the whole risk of sickness—that is to say, if the State Insurance Fund paid 80 or 90 per cent. only of the cost of treatment, the remainder being paid by the patient himself. In this way the insured person would have an interest in not consulting the medical man too often or for trivial complaints, and, on the other hand, the cost to himself in case of sickness would not be so great as to preclude his consulting a medical man if necessary. In this direction, Dr. Weiss feels confident, lies the satisfactory solution for all the parties concerned. In the few cases where this system has already been introduced for the insurance of the members of the family it has worked well. It would serve a useful purpose, the author points out in the course of his article, if medical men in other countries where State insurance has been introduced would describe in the pages of *Kuracisto* the system and the position of medical men under it. This would entail some amount of international notice of a matter which may concern practitioners of all nations.

SOAP AND THE SKIN.

IT is not conceivable, having regard to the powerful detergent properties of soaps, that they are entirely without action upon the skin of some persons at all events. Certain skins, it may be fairly assumed, are not proof against the action of alkali, and soap acts as a detergent because it forms an emulsion with dirt and the liberated alkali removes the fat which causes dirt to cling. Any inquiry, therefore, turned to the question of the effects of soaps upon the skin amounts to determining the sensitiveness of the skin to the action of alkali. Owing to hydrolysis soaps when dissolved in water exhibit a marked alkaline reaction, and this is true also of the so-called superfatted soaps, though these are generally made with superior materials, and for that reason may be preferred. An interesting contribution on this subject appears in the reports (recently issued) from the laboratory of the Royal College of Physicians of Edinburgh. In an article entitled "Soaps and their Effect on the Skin" Dr. Frederick Gardiner points out that among the dearer toilet and superfatted soaps the proportion of mineral ash and alkali is at least as high as in the coarser types. When an alkaline solution such as that of soap touches the skin there is induced, he says, both an excessive secretion of the acid sebum and sweat, and a solvent effect on the protective epithelium. Reviewing the different ingredients found in soaps, he concludes that all soaps from their chemical constitution must be irritant to the normal skin. The effect varies, he states, with the individual skin, and is more pronounced in senile and diseased skins. Cotton seed oil and rancid fats, according to his observations, are probably largely responsible for the irritant effects in cheaper soaps. Castor oil soap, he finds, is least irritating, but it has the disadvantage of being too freely soluble and therefore wasteful, while it is apt to become rancid. Cocoanut oil soap is decidedly irritating, while palm oil soap, though still an irritating variety, is less so, and tallow soap shows a low irritating value. If these deductions are correct Dr. Gardiner thinks they supply a reason for the bad effects of modern domestic soaps of the cheaper and clothes-washing kinds, as they are made mostly from cheaper fats and the cheap oils, cocoanut and cotton seed. Formerly tallow and olive oil were more used and the evil effects of soaps were not so pronounced at that time. No one can be in touch, he says, with the out-patient department of a large hospital and not observe the economic loss, not to speak of physical damage, due to soaps and soap powders. If hands were considered as well as the clothes, and more of the old-fashioned joint oil pressed into service, the results, he considers, would tend to lessen this serious and increasing occupation

dermatitis. The demand for soap is, of course, very great, and it would probably be difficult to meet this demand if the soap makers were limited to special materials. Still we think that some attention might be given to the manufacture of soaps with the view of carefully distinguishing those suitable for the cleansing of the skin and those for less refined purposes, and that a classification of soaps on these lines should be more rigidly pursued than has hitherto been the practice. The probability is that soap is used far in excess of actual requirements, and we agree with the advice that a minimum should be employed, and that minimum should be well washed off.

SPINAL ANÆSTHESIA BY TROPACOCAINE.

IN the Ingleby Lecture for the present year delivered by Professor T. J. Morrison at the University of Birmingham,[1] a very favourable account is given of the method of inducing anæsthesia by means of injection of tropacocaine into the spinal canal. The account is based on a series of nearly 1300 cases in which this procedure was employed, the patients being of all ages from 11 months to over 70 years. The drug is administered in 5 per cent. solution in normal saline fluid, and 1 grain forms an average dose for an adult. After the preliminary puncture is made 2 or 3 c.c. of the cerebro-spinal fluid are allowed to escape, in order to delay absorption and to avoid increase of pressure in the canal. When the drug is administered the patient is first conscious of a sensation of warmth, followed by tingling and numbness, in the feet. Soon anæsthesia is complete and is accompanied by inability to move the legs and by loss of knee-jerks; the abdominal muscles are relaxed. The mental condition of the patient is generally calm, and abdominal pain, if present, is relieved. Anæsthesia lasts for 30 to 90 minutes. Owing to blocking of afferent channels surgical shock is avoided, and after the operation there is little sickness, and food can be given almost immediately. The only drawbacks noted during anæsthesia were occasional pallor and tendency to syncope, easily treated by stimulants, and after the anæsthetic effects of the drug had passed off there were sometimes headache and backache of no great severity. In a few instances a trace of albumin appeared in the urine, owing apparently to some toxic action of tropacocaine on protoplasm, but no lasting ill effects on the kidneys were seen. In this series of cases no death directly attributable to the anæsthetic occurred, the only fatality in which possible blame might have been attached to the drug being in an exhausted patient the subject of old calculous pyelitis, in whom a general anæsthetic would have been inadmissible, and who died after being taken back to bed, 50 minutes after the injection. In two cases, both subjects of jaundice, temporary respiratory failure occurred on the operating table, but passed off under the usual measures of treatment. Satisfactory anæsthesia is obtained by spinal injections over all the region below the diaphragm. It is not advisable to attempt to obtain a higher distribution by making the injection high up in the cord, as some risk is thus probably run. Cases especially suitable for this form of anæsthesia are those in which there is respiratory trouble, such as bronchitis, or some grave condition of toxæmia, such as uræmia or diabetes. Cardiac cases and chronic alcoholic subjects are also better treated by injection than by a respiratory anæsthetic, and emergency operations may be done by this means on persons who have recently taken food. A few days in bed should be enjoined after the procedure, which is therefore unsuitable for ambulatory use, and it may be barred by local septic troubles in the neighbourhood of the seat of injection or by disease of the central nervous system. In some cases it is well to administer a small dose of morphine or some similar drug previously, or a general anæsthetic may be combined with the spinal injection, being given either before or after the latter; for example, in the few cases in which for any reason the local anæsthetic fails to act. Mr. Morrison emphasises the value of the method as facilitating the work of the surgeon in the absence of a qualified anæsthetist, and holds that it should be taught in all medical schools as an alternative to the usual methods.

[1] Birmingham Medical Review, August 15th, 1913.

AN UNQUALIFIED MEDICAL PRACTITIONER AND A "MEDICAL INSTITUTE."

AT Great Yarmouth an inquest was held recently upon the body of a widow, 79 years of age, at which the following facts were stated by the coroner in opening the case to the jury. He described it as one which would not occupy a long time, as the deceased died from natural causes. "It was, however," to quote the report given in the *Eastern Daily Press*, "a case where he (the coroner) had deemed it his duty in the interests of the public, the clubs, and insurance societies to hold an inquiry, as the deceased had been attended by some one from the Medical Institute—a Mr. Lyddon—who was not a qualified medical man, and who was unable to give a certificate of the cause of death, although left in charge of cases treated from that institution. He had written to the Registrar-General, who had replied stating that if he (the coroner) considered an inquest unnecessary the cause of death could be returned 'uncertified.' He wished, however, to point out mainly the apparent gross irregularity of such methods as practised by, or allowed to continue by, the Medical Institute in this town (Great Yarmouth), by having unqualified men to attend to cases which they were powerless to certify to in the event of death." The evidence which followed bore out this statement. The deceased had been ill for three months, apparently with dropsy and heart disease. She had been attended at first by a qualified practitioner also sent by the Medical Institute, but latterly by the unqualified person mentioned by the coroner. Medical evidence was given by Dr. T. Lettis, who saw the body of the deceased on the day of her death, and who, from external examination and from the symptoms described to him, expressed himself as satisfied that the deceased had died from heart disease and subsequent dropsy. The jury returned a verdict of death from natural causes, and expressed their sympathy with the family in the trouble to which they had been put. The jury also expressed regret that the Medical Institute did not take care to have a registered medical practitioner to attend upon its patients. Whether this last expression of opinion by the jury was caused by its sympathy with surviving relatives unable to obtain a certificate of the cause of death, or by a feeling that the attendance of a qualified medical practitioner might be better for the health of the patients of the institute, is not very clear. The question of the death certificate seems, however, to have been the matter most commented upon at the inquest. It was mentioned that subscriptions to the institute to cover medical attendance amounted to 4*s.* per annum, and, as has been stated, there was when the deceased became ill a registered practitioner employed. It will be noticed that no post-mortem examination was held, that the nature of the treatment accorded by the unqualified person who attended was not discussed, and also that if the coroner had so desired the body might have been buried as uncertified without any inquest at all. Assuredly such an inquest points to the desirability of early reform of the law relating to death certification and inquests.

TREATMENT OF PROFUSE HÆMORRHAGE FROM THE KIDNEY BY INJECTION OF ADRENALIN INTO THE RENAL PELVIS.

IN the *Journal of the American Medical Association* of July 5th Dr. H. L. Kretschmer has reported a case in which he successfully treated profuse renal hæmorrhage by using adrenalin in a novel fashion. The patient was a woman who began to suffer from hæmaturia during the sixth month of her first pregnancy. It was intermittent, lasting only a few days or a week. With the termination of the pregnancy the hæmaturia ceased. In her second pregnancy similar irregular hæmorrhage began in the second month. Only an occasional attack occurred during the third pregnancy. During the fourth pregnancy hæmaturia commenced at the beginning and continued until movements were felt. In the fifth pregnancy the hæmaturia was mild. After this the patient remained well till June, 1911, when hæmaturia again began. It continued daily until February, 1912, after which there was none until July. Hæmaturia was constantly present until September, when she complained of pain in the left lower abdomen and was seen by Dr. Kretschmer. She was very anæmic. The blood pressure was 128 and the hæmoglobin amounted to 50 per cent. Examination of the chest and abdomen was negative. Cystoscopy did not show any vesical lesion. Catheters were passed into both the renal pelves without encountering obstruction. The urine from the right ureter was clear and contained a few red corpuscles and albumin, but no casts. From the left ureter practically pure blood issued. No tubercle bacilli were found, and radiography was negative. In consequence of the patient's bad general condition and her refusal to consider any surgical treatment, 5 cubic centimetres of a mixture in equal parts of adrenalin and saline solution were injected into the left pelvis and she was put to bed. On the next day the amount of blood in the urine had much diminished. Three days later the injection was repeated. The hæmaturia markedly diminished. Four days later there was still some blood in the urine, and a third injection was given. Next day the urine was perfectly clear. During the next three or four days centrifuged specimens showed only an occasional red cell. Hæmaturia during pregnancy is usually attributed to nephritis. In cases of such profuse hæmaturia, as was present in this case, nephrectomy has been performed. The advantages of the simple procedure here described over such a serious operation are obvious, but if the hæmaturia is due to conditions such as tumour, tuberculosis, or calculus, surgical treatment may be necessary.

ACCIDENTS DUE TO DEFECTS OF SIGHT.[1]

THERE are certain occupations in which it will be admitted on all hands that defects of vision are liable to produce serious and even appalling disasters, such as that of the engine-driver on a railway locomotive or the look-out man or navigating officer on a ship. Yet it is a matter of common knowledge that there are few authentic records of accidents proved attributable to this cause. The reason is not far to seek. So far as our own Board of Trade is concerned, in spite of the recommendation of the Committee on Colour Blindness of the Royal Society of 1892, repeated by the Departmental Committee of the Board of Trade on Sight Tests of 1912, no steps have been taken to render compulsory the examination of the vision of witnesses giving evidence as to the nature or position of coloured signals or lights in judicial inquiries as to collisions or accidents, and the same laxity appears to obtain in other countries. No reasonable person will thereby conclude that accidents do not occur from this cause, but Mr. E. Nettleship has done good service in collecting such scattered evidence as exists. He divides the cases into three groups—shipping, railway, and "not proved." The shipping cases are subdivided into actual and potential casualties, the latter being cases in which an accident has been averted by prompt action. There are 15 actual and 9 potential shipping casualties, and 9 railway cases, whilst 12 other cases are discussed. The labour of collecting the material from very diverse sources must have been considerable, but will be amply repaid if it forces upon the attention of the authorities the wise remarks contained in the introductory paragraphs. All the arguments there brought forward emphasise the conclusion that "it ought to be obligatory for these men—i.e., those whose visual defects may have been to blame for an accident—and any others who give evidence as to signals, to have their sight tested by expert examiners after every maritime or railroad accident in which the nature of the signals that are in question has to be inquired into." Special attention should be drawn at the present time to the fact that "even when colour perception is normal, defect of vision for form may, and often does, lead to tardiness, hesitation, and even positive errors in the interpretation of the colour of a distant signal." There is considerable agitation amongst the Liverpool shipowners and others, as shown by a recent deputation to the President of the Board of Trade, in favour of the retention of the "old standard" of form vision—i.e., 6/12 with both eyes together. It is quite certain that this degree of visual acuity is very near the danger zone, and purely commercial considerations should not be allowed to imperil the lives of those that go down to the sea in ships. We cordially endorse Mr. Nettleship's hope that "a full presentation of all the cases that can be collected up to the present date may help towards the formation of a correct and temperate view of the reality and seriousness of the danger." It is a danger not to be met by the rhetorical assertions of partisans, but by the sober deliberations of competent judges.

[1] On Cases of Accident to Shipping and on Railways due to Defects of Sight. By E. Nettleship, F.R.C.S. Eng., F.R.S., Consulting Ophthalmic Surgeon to St. Thomas's Hospital, and Consulting Surgeon to the Royal London (Moorfields) Ophthalmic Hospital. London: Adlard and Son. 1913. Pp. 54. Price 2s.

A CASE OF ERYTHRÆMIA ASSOCIATED WITH ASCITES AND PHLEBITIS OF THE SPLENIC VEIN.

IN the *Presse Médicale* of August 9th a case of noteworthy importance is recorded by Professor A. Chauffard and M. Jean Troisier. In a clinical account of this case already published the authors had ventured to diagnose the presence of portal thrombosis on the strength of ascites and dilatation of the superficial abdominal veins. The spleen and liver were enlarged, the skin and mucous membranes had been cyanosed for years, and the blood count showed a total of 9,560,000 red corpuscles per cubic millimetre. The evidences of portal obstruction appeared abruptly five months before death. A noteworthy feature of the case was a reduction of the polyglobulism under treatment with citrate of soda. The report now published deals more particularly with the necropsy, which disclosed a series of interesting and significant facts. The peritoneum contained a large collection of clear, free fluid. The spleen was enlarged and sclerosed; the liver was also enlarged, but its substance was of normal consistence, though there was marked perihepatitis. The first part of the splenic vein was the seat of a chronic inflammatory process terminating in occlusion by thrombosis, which had also extended into the gastro-epiploic veins. The omentum itself was retracted and adherent to the under surface of the liver; its veins were enlarged and it displayed a diffuse rosaceous colouration. The remainder of the portal system was normal. Histological examination

of the bone marrow disclosed an intense erythroblastic reaction. The splenic pulp was permeated by a fine fibrosis; such areas as escaped this were intensely congested. In the liver, on the other hand, the fibrotic process spread into the substance of the organ from the capsule for a short distance only. The pancreas was cirrhotic, this change apparently radiating from the thrombosed and obliterated splenic vein. The absence of any tuberculous element in the case was proved by several observations; the von Pirquet test yielded no reaction, inoculation of a guinea-pig with the ascitic fluid was equally fruitless, and no tuberculous focus was disclosed by the necropsy. Indeed, as the writers remark, no starting-point could be discerned for the changes which were otherwise traceable step by step throughout their whole evolution—over-production of red corpuscles by the bone marrow, general polyglobulism, excessive erythrolytic activity on the part of the spleen leading first to hyperæmia and later to sclerosis of that organ, which by its abnormal elimination of toxic substances provoked a thrombo-phlebitis of the splenic vein, this being in turn responsible for a limited portal obstruction. The case is classified by the authors as one of erythræmia (Vaquez's disease) with splenic thrombo-phlebitis as its unusual feature.

WE regret to announce the death at the age of 66 of Mr. Andrew Clark, F.R.C.S. Eng., Hon. D.Sc. Oxon., consulting surgeon to the Middlesex Hospital and honorary surgeon to the King. An obituary notice will appear in our next issue.

POST-GRADUATE STUDY.

POST-GRADUATE study is divided into three main divisions—the general study of professional subjects (including the special study of some branch), the study of State medicine, and the study of tropical medicine. We have already described the provision made for instructing graduates in the last two divisions, mentioning the procedure necessary to obtain diplomas or certificates for proficiency in them. The following article shows the principal arrangements existing for general post-graduate instruction, and some little repetition has been necessary:—

LONDON.

The London Post-Graduate Association.—The London Post-Graduate Association is now so well known that it is hardly necessary to remind our readers that it is composed of the following hospitals and medical schools (general and special)—viz.,: *General Hospitals:* Charing Cross, Guy's, King's College, St. George's, St. Mary's, St. Thomas's, University College, and Westminster. *Special Hospitals:* The Brompton Hospital for Consumption and Diseases of the Chest, the Hospital for Sick Children (Great Ormond-street), the London School of Tropical Medicine, the National Hospital for the Paralysed and Epileptic (Queen-square), the Royal London Ophthalmic Hospital, late Moorfields (City-road), St. Mark's Hospital for Diseases of the Rectum, and the Medical Graduates' College and Polyclinic. One ticket (the charge for which is 10 guineas for a three months' course, or 15 guineas for six months) admits the holder to the clinical instruction in the wards and out-patient's departments, the operations, necropsies, and other hospital practice of all the institutions mentioned above. For the purpose of enabling qualified medical men to keep up to date in their work we can heartily recommend the scheme offered by the London Post-Graduate Association, which thus places the best of all the hospital work in London at the disposal of its ticket-holders. The office of the Association is now at 20, Hanover-square. Further particulars may be obtained by writing to the Secretary, the London Post-Graduate Association, 20, Hanover-square, London, W., or by personal application between the hours of 10.30 A.M. and 1 P.M. any week-day except Saturday.

Medical Graduates' College and Polyclinic.—This institution affords to medical practitioners special facilities for acquiring technical skill and for advancing their clinical and scientific knowledge. The building contains lecture- and consulting-rooms, a pathological and clinical laboratory, a Roentgen-ray room, an ophthalmoscope-room, a museum, a library, and reading- and waiting-rooms, &c. Cliniques are given on each working day of the week except Saturday at 4 P.M., and a lecture on medicine, surgery, or their special branches, is delivered daily except on Fridays and Saturdays, at 5.15 P.M. Practical laboratory instruction in the various branches of Clinical Pathology is also provided. Classes are also held in Otology, Laryngology, Rhinology, Ophthalmology, Radiography, Anatomy, Nervous Diseases, Microscopy, Urinary Analysis, Gynæcology, Practical Bacteriology, Sigmoidoscopy, Cystoscopy, Mental Diseases, Hygiene and Public Health, and Operative Surgery. Extra classes in any subject are formed to suit the convenience of practitioners unable to attend those already provided. Special tutorial classes are held for practitioners reading for the higher examinations. A monthly journal, the *Polyclinic*, recording the work done in the College, is issued free to subscribers and members. The annual subscription for medical practitioners of either sex is 1 guinea. Full information can be obtained from the Medical Superintendent at the College, 22, Chenies-street, Gower-street, W.C. The autumn session will commence on Monday, Sept. 29th.

The Hospitals of the Seamen's Society.—In connexion with these hospitals there are two post-graduate schools—viz., (*a*) the London School of Tropical Medicine; and (*b*) the London School of Clinical Medicine.

(*a*) *The London School of Tropical Medicine.*—The school buildings, laboratories, museum, library, &c., are within the grounds of the Branch Hospital, Royal Victoria and Albert Dock (Station, Connaught-road, Great Eastern Railway). Opportunities are afforded to students and others who may be desirous of studying diseases incidental to tropical climates before entering the service or going abroad. In the hospitals of the society are to be found cases of tropical diseases such as may be met with in actual practice in the tropics. During the year the School has been greatly enlarged. A new laboratory, capable of accommodating 60 students and equipped in the very latest manner, has been added, and the old laboratories have been subdivided into special laboratories, preparation rooms, director's room, and incubation rooms, &c. The resident accommodation for students has also been greatly increased, and it is hoped that there is now sufficient accommodation for all who desire to live at the School. A new course in tropical sanitation and hygiene has been inaugurated and will occupy about three months twice every year. There are three courses in the year, each lasting three months, beginning on Oct. 1st, Jan. 15th, and May 1st respectively. The laboratory, museum, library, &c., are open daily, and clinical instruction is given daily in the wards of the hospital. The School Course is recognised by the University of Cambridge for its Diploma of Tropical Medicine and Hygiene. Classes are arranged for advanced Helminthology, Protozoology, and Entomology. The lecturers in the School are: Sir P. Manson, F.R.S., Dr. C. W. Daniels, Dr. L. Westenra Sambon, Dr. J. M. H. Macleod, Professor R. Tanner Hewlett, Mr. James Cantlie, Mr. E. Treacher Collins, Dr. F. M. Sandwith, Mr. K. W. Goadby, Professor W. J. Simpson, Colonel A. Alcock, I.M.S., C.I.E., F.R.S., Dr. R. T. Leiper, and Dr. C. M. Wenyon. The Director is Mr. H. B. G. Newham. Certificates are granted after examination to those who complete a full course. Students must be qualified or in the fifth year of their medical studies. Prizes: the Hon. Edward John Stanley Memorial Fund, £60, and the Wandsworth Scholarship, £350.

(*b*) *The London School of Clinical Medicine* (for qualified practitioners only).—The lecture rooms, pathological laboratories (several), museum, and operative surgery class-rooms are in the *Dreadnought* Hospital at Greenwich, and the whole hospital of 250 beds with its out-patient departments is open to students from 10 A.M. till 5 P.M. Medical, Surgical, and Special Department In-patient Clinics are held every afternoon except Saturday by the senior members of the staff, and operations are performed daily, whilst out-patients in the Medical, Surgical, and Special Departments are demonstrated by the assistant physicians and assistant surgeons daily in the forenoon. Practical classes are arranged each session in the following subjects: The Practice of Medicine, the Practice of Surgery, Diseases of the Eye, Diseases of the Throat, Nose, and Ear, Diseases of the

Skin, Diseases of the Nervous System, Operative Surgery, Clinical Pathology, Microscopy and Bacteriology, Mental Diseases, Radiography, the Administration of Anæsthetics, Hygiene and Public Health, Gynæcology, Surgical Diseases of Women, Surgical Diseases of Children, Medical Diseases of Women, Medical Diseases of Children, and Applied Anatomy. Two sessions are held yearly, one from October to February (five months), the other from April to July (four months), but the teaching is so arranged that students may join at any time. Every variety of disease may be studied in the wards and out-patient rooms of the hospital, at the dispensaries, and at the affiliated hospitals. Male patients chiefly are received as in-patients by the Seamen's Hospital Society, but arrangements have been entered into with the Royal Waterloo Hospital for the reception of graduates who desire instruction in Diseases of Women and Children; with the Bethlem Royal Hospital for those who require tuition in Mental Diseases. These hospitals are situated on the south side of the river, are directly linked to the *Dreadnought* by both railway and tramway, and are affiliated to the London School of Clinical Medicine. Arrangements have also been made whereby certain members of the staff of the Miller General Hospital for South-East London have joined the list of extra-mural teachers, and will place their clinical material at the disposal of the students. The certificates of the School are recognised by the Admiralty, the War Office, the India Office, the Conjoint Examining Board of the Colleges of Physicians and Surgeons, the Colonial Service, and the University of London (for the higher degrees). The supply of material affords exceptional facilities for practical instruction in Operative Surgery on the cadaver and in Pathology. The hospital also offers a wide field for the study of Venereal Diseases, and there is a special department with open-air wards for the treatment of Tuberculosis.

The teaching staff consists of: Sir Dyce Duckworth, Dr. Frederick Taylor, Sir John Rose Bradford, K.C.M.G., F.R.S., Professor R. Tanner Hewlett, Dr. Guthrie Rankin, Dr. S. Russell Wells, Mr. William Turner, Mr. Lawrie H. McGavin, Mr. E. Rock Carling, Mr. L. Vernon Cargill, Sir Malcolm Morris, K.C.V.O., Mr. Richard Lake, Colonel Collis Barry (acting), Dr. Frederick Langmead, Dr. Gordon Holmes, Dr. Charles Singer, Mr. C. C. Choyce, Mr. H. Curtis, Mr. C. Rowntree, Mr. P. P. Cole, Mr. R. Bickerton, Dr. Henry McCormac, Mr. G. N. Biggs, Dr. R. E. Delbruck, and Dr. E. W. Gandy.

The extra-mural lecturers are: Dr. James Taylor, Dr. W. H. B. Stoddart, Professor W. J. R. Simpson, C.M.G., Mr. James Cantlie, Dr. William J. Gow, Dr. Herbert Williamson, Mr. Herbert S. Pendlebury, Mr. Ivor Back, Dr. Alexander Haig, Dr. R. O. Moon, Dr. Charles O. Hawthorne, Dr. Thomas D. Lister, Dr. Harold Pritchard, Dr. A. S. Woodwark, Mr. Keogh Murphy, Mr. McMullen, Mr. Ashdowne, Mr. J. Cole Marshall, and Dr. J. D. Barris.

The Syllabus and other particulars of the School can be obtained on application to Mr. C. C. Choyce, the Dean, Seamen's Hospital, Greenwich, S.E.

West London Post-Graduate College, West London Hospital.—The West London Post-Graduate College was started in 1895, and three years later its basis was enlarged by the provision for the post-graduates of lecture-, reading-, writing-, and class-rooms, &c., while owing to the continued growth of the college these were transferred in 1901 to a building especially constructed for the purpose. Over 2800 post-graduates have been enrolled since its establishment, the yearly entry being now about 220. The hospital, which contains 160 beds, is in the main Hammersmith-road, about three miles from Hyde Park Corner, and very accessible by omnibus, tram, or train. The physicians and surgeons attend daily at 2.30 P.M. Post-graduates accompany the staff and the junior staff on their visits to the wards. Instruction is given in the out-patient department daily at 2.15 P.M. by the assistant physicians and assistant surgeons. The out-patient department has recently been enlarged, and there is ample accommodation for post-graduates to see and to examine the patients in all the special departments of the hospital. Clinical assistants are appointed from among the post-graduates to the Medical and Surgical out-patients and to the Special Departments. The fee for a clinical assistantship to non-members is £3 3*s.* for three months, which includes membership of the college on the days on which the clinical assistant attends. Practical classes, limited in number, for instruction in special subjects, as well as in medicine and surgery generally, are held at required. Operations are performed daily at 2 P.M. Post-graduates are allowed to stand close to the table and can see the operations perfectly. The surgeons often avail themselves of the assistance of post-graduates at operations. Instruction is given in the administration of anæsthetics by the anæsthetists on the operating days, and post-graduates are allowed to adminster anæsthetics under their superintendence. Post-mortem examinations are performed at 2 P.M., and demonstrations on recent pathological specimens are given on Mondays at 12 noon during each session in the pathological laboratory. Demonstrations are given each week on Practical Medicine on Monday, Thursday, and Friday mornings. Practical lectures and demonstrations are given each morning and evening (except Saturdays) during the session. Included in this course are lectures by outside specialists on Mental Diseases and on Public Health, and in connexion with the former instruction is also given in certain asylums. The college is licensed for the teaching of operative surgery. The fee is £4 4*s.* each member in a class of four. The practice of the hospital is well adapted to the needs of medical officers of the Royal Navy and officers of the Royal Army Medical Corps, Indian Medical Service, and Colonial Service who have obtained leave for further professional study, and the certificate of attendance at the college during such leave is recognised by the Admiralty and other authorities. The college is recognised by the University of London for hospital practice before the M.D. degree and by the Royal College of Surgeons for the necessary work before the Fellowship examination. The pathological laboratory has recently been completely reorganised and placed in the hands of the pathologist, Dr. Elworthy, who attends there every day and gives instruction in Bacteriology and Microscopy. A special class meets on three mornings a week from 10 to 1, and post-graduates joining the class can work in the laboratory at other times under the guidance of the pathologist. A class meets 12 times and commences at the beginning of each month. The fee for this class in Bacteriology and Microscopy is £5 5*s.* The fee for the hospital practice including all ordinary demonstrations and lectures, is £1 1*s.* for one week, £3 3*s.* for one month, £6 6*s.* for three months, £10 10*s.* for six months, £15 15*s.* for one year, and £30 for a life ticket; all fees to be paid in advance. A practitioner who cannot attend the whole course may attend any ten lectures or demonstrations during the session for a fee of £1 1*s.* A vacation class is held each year in August, the fee being £3 3*s.* for the course of one month, including hospital practice. The fee for a three months' course of instruction in the administration of anæsthetics, including a special class, is £3 3*s.*, or without the class £2 2*s.* A ticket for any of the above courses will be issued at any date. Arrangements can be made for gentlemen working for higher university examinations to be coached. The Winter Session will commence on Monday, Oct. 13th, and the opening address will be given by Sir Gilbert Parker, M.P., on Thursday, Oct. 30th. All communications should be addressed to the Dean, Mr. Donald Armour, Post-Graduate College, or to Mr. Bishop Harman, Vice-Dean, West London Hospital, Hammersmith-road, W.

North-East London Post-Graduate College.—This post-graduate school is established in connexion with the Prince of Wales's General Hospital, Tottenham, N., which is recognised by the University of London as a place of post-graduate study for the M.D. and M.S. degrees, by the Admiralty and the India Office for purposes of study leave, and by the University of Cambridge for the D.P.H. diploma in respect of bacteriology. Facilities are there afforded to qualified medical practitioners for taking part in the work of an active general hospital of 125 beds and for attending demonstrations in various branches of medicine, surgery, and gynæcology, with opportunities for clinical instruction in Diseases of the Eye, Ear, Throat, Nose, Skin, and Fevers, Psychological Medicine, the Administration of Anæsthetics, Radiography, and Dentistry. Cliniques, lectures, and demonstrations are given by members of the teaching staff in the lecture-room, in the wards, in the various out-patient departments, and in certain affiliated institutions. Operations are performed on every afternoon of the week except Saturday. Special limited classes are arranged in Modern Methods of the Study and Treatment of Diseases of the Lungs and Heart, Gynæcology, Diseases of the Throat, Nose,

and Ear, Diagnosis of Diseases of the Nervous System, Ophthalmoscopy and Refraction, Diseases of the Skin, Abdominal Surgery, Radiography, Bacteriology, Clinical Pathology, Vaccine Therapy, and Medical Electricity. The fee for a three months' course of study, which may be begun at any time, in any single department, is 1 guinea. A fee of 3 guineas admits to the whole practice of the hospital for a similar term (one month 1 guinea), and a perpetual ticket for the practice of the hospital may be obtained on payment of a fee of 10 guineas. Clinical assistants are appointed in the various departments. A certificate, signed by the staff, may be obtained at the end of three months' hospital attendance. A pathological museum and a pathological laboratory for original research are available. A reading- and a writing-room, containing a reference and lending library, is provided, and tea may be obtained. The hospital is connected with the Telephone Exchange (No. 23, Tottenham).

The lectures are as follows:—In General Medicine: Dr. Percy Kidd, Dr. R. Murray Leslie, Dr. G. P. Chappel, Dr. A. J. Whiting, Dr. A. G. Auld, and Dr. T. R. Whipham. In General Surgery: Mr. Walter Edmunds, Mr. H. W. Carson, Mr. J. Howell Evans, and Mr. E. Gillespie. In Gynæcology: Dr. Arthur Giles. In Diseases of the Eye: Mr. R. Philip Brooks. In Diseases of the Ear, Throat, and Nose: Mr. H. D. Gillies. In Diseases of the Skin: Dr. G. Norman Meachen. In Fevers (at the North-Eastern Fever Hospital, St. Anne's-road): Dr. Frederic Thomson. In Psychological Medicine (at the Colney Hatch Asylum): Dr. S. E. Elgee. In Tropical Medicine: Mr. James Cantlie. In Radiography and Medical Electricity: Dr. Metcalfe. In the Administration of Anæsthetics: Dr. Hadfield and Dr. Shannon. In Vaccine Therapy and Bacteriology: Dr. G. G. Macdonald.

The opening lecture of the Winter Session will be given by Sir Arbuthnot Lane, Bart., at the Prince of Wales's General Hospital, Tottenham, N., on Thursday, Oct. 23rd, at 4.30 P.M. The subject of the address, to which all qualified medical practitioners are invited, will be "Intestinal Stasis." Further information, with prospectus and syllabus of lectures and demonstrations, may be obtained from the Dean of the School, Dr. A. J. Whiting, at the Hospital, or at 142, Harley-street, London, W.

Royal Hospital for Diseases of the Chest.—A School for Research and Clinical Instruction in Diseases of the Chest has been established in connexion with the new building of the Royal Hospital for Diseases of the Chest, City-road, equipped with modern pathological and bacteriological laboratories, radiographic department, lecture-room, and other rooms, provided with the most modern apparatus, including epidiascope and electro-cardiograph. A syllabus of lectures and practical demonstrations, with an account of the facilities for research work, is now been drawn up and will be issued towards the end of September. Special arrangements are being made for practical demonstrations in the most recent methods for the diagnosis and treatment of pulmonary tuberculosis (including the administration of tuberculin) suitable for medical practitioners desirous of qualifying themselves for sanatorium and other posts in connexion with the treatment of tuberculosis. Full information can be obtained from the acting dean, Dr. D. Barty King, Royal Hospital for Diseases of the Chest, City-road, E.C.

Central London Ophthalmic Hospital, Judd-street, St. Pancras, W.C.—For the various classes of instruction in Ophthalmology held at this hospital application should be made to the Dean. Classes of instruction on the following subjects will commence on Sept. 15th, 1913. The course is open to both men and women students.:—1. The Use of the Ophthalmoscope, at 4.15 P.M., by Mr. A. Levy, will be held on the following dates:—Tuesday, Sept. 16th, Friday, Sept. 19th, Tuesday, Sept. 23rd, Friday, Sept. 26th, Tuesday, Sept. 30th, Friday, Oct. 3rd, Tuesday, Oct. 7th, Friday, Oct. 10th, Tuesday, Oct. 14th, Friday, Oct. 17th, Tuesday, Oct. 21st, and Friday, Oct. 24th. 2. Errors of Refraction and Muscular Anomalies, by Mr. Ernest Clarke. This course of lectures, with practical demonstrations, will be held at 3.30 P.M. on the following dates: Tuesday, Sept. 16th, Friday, Sept. 19th, Tuesday, Sept. 23rd, Friday, Sept. 26th, Tuesday, Sept. 30th, Friday, Oct. 3rd, and Tuesday, Oct. 7th. 3. Medical Ophthalmology, by Dr. C. O. Hawthorn. This class will include a course of lectures and of lantern and clinical demonstrations. 4. Anatomy of the Eye, by Mr. Foster Moore, to be held on Wednesdays and Fridays at 4.30 P.M., commencing on Wednesday, Sept. 17th. 5. Operative Surgery, under the direction of Mr. J. F. Cunningham, will be held on the following dates:—Monday, Sept. 15th, Thursday, Sept. 18th, Monday, Sept. 22nd, Thursday, Sept. 25th, Monday, Sept. 29th, Thursday, Oct. 2nd, Monday, Oct. 6th, and Thursday, Oct. 9th. 6. Pathology of the Eye, by Mr. S. Mayou, on Wednesdays and Saturdays at 4 P.M., commencing on Wednesday, Sept. 17th. 7. Bacteriology of the Eye, by Mr. S. H. Browning. 8. External Diseases of the Eye, by Mr. H. E. Juler, commencing on Monday, Sept. 15th, at 4 o'clock. 9. X Ray Instruction, by Mr. R. W. Salmond. 10. Clinical Lectures. These lectures will be delivered at intervals by the teaching staff. The subjects and dates will be posted on the notice board of the Hospital. The post of Clinical Assistant at the hospital is open to both men and women, who must be qualified and registered practitioners. A composition fee of £5 5*s.* will entitle students to a full course of classes with the exception of those on Operative Surgery.

Hospital for Sick Children, Great Ormond-street, W.C.—A special course of instruction in the Diseases of Children for post-graduates only will be held at the beginning of the autumn session. In addition to the ordinary practice of the hospital, special classes, illustrated by cases, specimens, skiagrams, operations, &c., have been arranged to extend over the fortnight from Sept. 29th to Oct. 11th, 1913, inclusive. Further details and full syllabus may be obtained by application to the Dean or the Secretary at the Hospital. Fee for the entire course £5 5*s.*

PROVINCIAL.

Birmingham.—At the University of Birmingham special courses for post-graduates have not yet been instituted, except in the subject of Advanced Bacteriology (January to March) and Clinical Pathology and Bacteriology (April to June) and a course of Veterinary Pathology and Bacteriology for Veterinary Practitioners (October to December), but the various departments of the University are open to graduates who can attend any of the systematic courses on payment of a fee. Graduates may also work in the laboratories under the supervision of the professors for a small fee to cover the incidental expenses. Applications for information should be made to the Dean. At the General and Queen's Hospitals Clinical Demonstrations for practitioners are given by members of the staff twice a week during the winter sessson. All classes at the University and hospitals are open to men and women.

Bristol.—Post-graduate instruction for those desiring to take M.D. degrees, for applicants for tuberculosis officerships, and for other general purposes, is provided in the Faculty of Medicine of the University of Bristol. For details, apply to the Dean of the Faculty of Medicine, University of Bristol.

Cambridge.—Long vacation courses are held at Cambridge during the month of July and the first three weeks in August. This year the course included lectures and demonstrations on general and special pathology by Professor G. Sims Woodhead and Mr. T. S. P. Strangeways, on bacteriology for medical students by Dr. Louis Cobbett, an advanced course on bacteriology for students of sanitary science by Dr. G. S. Graham Smith, a course in pharmacology by Professor J. B. Bradbury and Dr. W. E. Dixon, courses of lectures in surgery, surgical anatomy, and bandaging, &c., by Professor Howard Marsh and Dr. H. B. Roderick. The pathological and pharmacological laboratories are open to advanced students and graduates. Applications for information should be made early in the year to Mr. E. E. Stubbing, Pathological Laboratory Museum, Downing-street, Cambridge.

Leeds.—The Anatomical, Physiological, and Pathological Laboratories at the University of Leeds are at the disposal of qualified medical men for research or for routine work at specially arranged fees, and though there is no definite post-graduate course at the General Infirmary, the work of this large teaching institution is very freely accessible to qualified medical men at reduced fees.

Liverpool.—At the University of Liverpool the department of Bio-chemistry, under the superintendence of Professor Benjamin Moore, is devoted chiefly to post-graduate teaching and research work upon chemistry in relationship to biology and medicine. The laboratory possesses a main room designed specially for research students in bio-chemistry. In

this room there is ample accommodation for ten workers, each with independent working space. Competent students desirous of undertaking research in problems of either physiological or pathological chemistry can be supplied with accommodation in the Johnston Laboratory. Every assistance is given to such students, either in working out suitable problems of their own choosing, or the professor is prepared to suggest problems to persons having a knowledge of bio-chemistry and desirous of carrying on work in that subject. Applications should be addressed to the Johnston Professor of Bio-chemistry at the laboratory. Special advanced courses in bacteriology are given in connexion with both the Medical and Veterinary Schools during the winter and summer terms, and special classes are arranged for candidates for the Diplomas in Public Health, Ophthalmology, and Veterinary Hygiene, and for the degree of Master of Hygiene. Every facility is given to senior students or graduates who wish to undertake special research work. This department is in charge of Professor J. M. Beattie. Instruction may be obtained at the Johnston Laboratory and also at the farm station of the Incorporated Institute of Comparative Pathology on the methods of manufacture and testing of the various curative and preventive vaccines and sera used in medical and veterinary practice. During the summer, autumn, and Lent terms, Mr. D. Douglas Crawford delivers a course of lectures and demonstrations in surgical and applied anatomy which is intended to meet the requirements of students preparing for their final professional examinations. In the department of Public Health a course of 41 lectures and demonstrations on the diagnosis, treatment, and administrative control of pulmonary tuberculosis will be given. The course has been specially designed to meet the requirements of those seeking appointments as tuberculosis officers. It has also been adapted to meet the needs of those general practitioners who wish to become familiar with recent advances in medicine with regard to tuberculosis. Post-graduate courses are also given in operative surgery, ophthalmology, surgical diseases of children, skin and throat diseases, by the several lecturers appointed for those special courses of instruction. All post-graduate classes at the University are open to persons of either sex.

Manchester.—The plan adopted a few years ago at the University of Manchester of having special courses of lectures on medicine and surgery for qualified medical men has since that time been considerably modified. Classes are now held and lectures given on various special subjects, as, e.g., diseases of the heart, diseases of the respiratory organs, of the kidney, the pathology of the skin, neurology, and so on, and the same obtains as to surgical matters. These lectures are designed to meet the wants of senior students and practitioners. During the past summer post-graduate clinical demonstrations have been given twice a week at the infirmary by members of the staff, and it is expected that a series of demonstrations will be arranged for next summer. Classes for senior students and post-graduates are also held at the Ancoats Hospital. There are good opportunities also for post-graduate study at the special hospitals for diseases of the eye, throat, ear, and skin, &c., but no special demonstrations are given. The Public Health Department, under the direction of Professor S. Delépine, is largely attended by medical men, as are also the lectures given in the University and the Hygiene course by Dr. E. J. Sidebotham. Facilities are also given for the pursuit of research work in the public health laboratories, and in this department the dates of post-graduate courses in pathology and bacteriology are announced in the laboratory and in the medical journals. There is no difficulty in Manchester in the way of any practitioner who wants to have his recollections revived or his knowledge enlarged and brought up to the present standard in accomplishing his wish. Facilities for research and post-graduate work are offered to women on the same terms as men.

Newcastle-upon-Tyne.—At the University of Durham courses of instruction are given in chemical and physical laboratory work and lectures are delivered on comparative pathology and practical bacteriology for the Diploma in Public Health and the degree of Bachelor in Hygiene. All courses are open to women students and graduates. A class in surgical pathology adapted for graduates is held in the Summer Session, it being intended to take up the study of particular branches of work.

Sheffield.—At the University of Sheffield post-graduate courses are held annually during the winter months. These courses are specially arranged for practitioners, and include lectures on special subjects, laboratory courses, and clinical work, both general and special. A separate laboratory is reserved in the pathology department for post-graduate research workers, the use of which and of all apparatus is free. Periods of hospital practice may be taken out by registered practitioners at a small fee.

SCOTLAND.

Aberdeen.—Although there is no special provision at Aberdeen for post-graduate study such as exists in London, still there are some facilities for doing work of this nature at the University. There are fully equipped laboratories in anatomy, anthropometry, bacteriology, botany, chemistry, pharmacology, physics, physiology, public health, and zoology. Graduates or others desiring to engage in special study or research may be admitted by the Senatus to prosecute such study or research in any of the laboratories in accordance with certain provisions. Research students are exempted from payment of laboratory fees, but are required to matriculate each year, paying the ordinary matriculation fee (£1 1*s.* for winter and summer; 10*s.* 6*d.* for summer). Forms of application for admission as research students may be had from the Secretary of the Senatus. The fees are £3 3*s.* for six hours per week in winter or nine hours per week in summer, 10*s.* 6*d.* and 7*s.* being charged for every extra hour per week in winter and summer respectively. The fee for the Public Health Laboratory for six months is £6 6*s.*, and for the Bacteriological Laboratory for three months is £4 4*s.*, £3 3*s.*, and £1 11*s.* 6*d.* being respectively charged for a half course or any less time. At the Royal Lunatic Asylum, accommodating above 700 patients (fees £2 2*s.* for three months), arrangements are made for extra teaching in the higher departments of medical psychology and cerebral pathology for graduates who desire it or wish to obtain the certificate of the Medico-Psychological Association of Great Britain and Ireland. Clinical work may be done at the following places:—(General Hospital): Aberdeen Royal Infirmary (accommodating 200 patients; perpetual ticket £6, or first year £3 10*s.* and second year £3, thereafter free); Sick Children's Hospital (75 patients; first year £2 2*s.*, then £1 1*s.*); City (Fever) Hospital (100 beds; £1 1*s.* for three months); General Dispensary and Lying-in and Vaccine Institution (10,000 out-patients per annum; a fee of £3 3*s.* for the general practice of the Institution, a fee of £1 1*s.* for the certificate of Vaccination, and a fee of £3 3*s.* for the Maternity Practice); and Ophthalmic Institution (16,000 patients per annum; fee £2 2*s.*). During the summer session (April to June) special classes, each costing £2 2*s.*, are held at the Royal Infirmary, the subjects being Diseases of the Skin, Medical Electricity, Dental Surgery, Anæsthetics, Ophthalmology, Gynæcology, and Diseases of Ear, Nose, and Throat. Lectures on Diseases of the Ear and Throat are also given at the Dispensary. All these facilities for post-graduate study are open to medical practitioners generally.

Edinburgh.—Post-graduate teaching now occupies a recognised place in the Edinburgh School, the arrangements connected therewith being entrusted to a committee consisting of representatives appointed by the Faculty of Medicine of the University and the Royal Colleges. Exceptional facilities for post-graduate instruction are afforded during the summer vacation. Four courses are held at this time—viz., a course on Diseases and Defects of Children, with additional Demonstrations, during the second fortnight of July, a course on Internal Medicine during August, and both a Surgical and General Course during September. (*a*) The course on Diseases and Defects of Children will comprise Medical and Surgical Clinics, and Clinics on Out-patients, also Clinics and Demonstrations on special subjects, the needs of Medical Inspectors of School Children being specially kept in view. (*b*) The course on Internal Medicine, which will extend for four weeks, will comprise classes upon medical anatomy (10 hours), the methods of X ray diagnosis and electrical treatment (10 hours), the clinical examination of the blood (15 hours), clinical bacteriology (15 hours), the examination of the heart (39 hours), the examination of the nervous system (20 hours), the examination of urine and digestive products (20 hours), and the examination of sick children (10 hours), in addition to a series of 40 specially arranged clinics dealing with diseases of the heart, lungs, blood and

ductless glands, nervous system, stomach and kidneys, abdomen, and general diseases. Once a week there will be a clinic on the medical aspects of morbid pregnancy, &c., the place of meeting being the Royal Maternity Hospital. The entries for this course will be limited to 25, and the fee will be 10 guineas. (*c*) The Surgical Course will include classes upon surgical anatomy (20 hours), surgical pathology (20 hours), and operative surgery upon the cadaver (30 hours), in addition to specially arranged daily clinics. The entries for the Surgical Course will be limited to 25, and the fee will be 10 guineas. (*d*) The General Course, subdivided into two independent fortnights, will also continue for four weeks. Among the subjects included in this course are medical anatomy, the medical and surgical affections of children, the medical inspection of school children, lectures upon infant feeding, demonstrations upon the pathology of the eye, clinics on medicine, surgery, infectious diseases, neurology, venereal diseases, diseases of the eye, demonstrations on morbid anatomy, &c. The fee for the course will be 5 guineas, or 3 guineas for either fortnight. In addition to the subjects above mentioned the following classes, the attendance upon which is necessarily limited, are open to graduates who have entered for the General and Surgical Course upon payment of an additional fee of 1 guinea in each instance: bacteriology, diseases of the blood, diseases of the ear, nose, and throat, ophthalmoscopy, errors of refraction, gynæcology, histological methods employed in medical diagnosis, and X ray and electrical work. There are also two special courses: 1. On the Ear, Nose, and Throat, meeting through September. The fee, which is 10 guineas, will also permit of attendance on all the classes included under the general course. 2. On the Surgical Diseases of the Genito-Urinary Tract. This course will be held during the second fortnight of September. The fee is 6 guineas, and will also permit of attendance on all the classess included in the second fortnight of the general course. Further special lectures have been arranged for. These lectures are open to local practitioners as well as to graduates attending the September courses. Accommodation may be obtained during September at one of the residences of the University Hall. Information regarding other accommodation may be obtained from the Secretary. The committee of the University Union has decided to open the building during September, and gentlemen attending the course are eligible for temporary membership for one month on payment of a fee of 10*s*. The Union, which adjoins the University buildings, contains a good medical library, reading-rooms, dining-hall, smoking-room, billiard-room, &c. Copies of the syllabus of both the August and September courses may be obtained from the Secretary, Faculty Office, University New Buildings, Edinburgh. The course of instruction is open to graduates of either sex.

Glasgow.—At Glasgow the possibilities for post-graduate work are considerable, and in almost every department graduates, both male and female, have opportunities for acquiring more special knowledge or carrying on original work. During September the medical staff of the Western Infirmary, Glasgow, have arranged to conduct post-graduate clinical courses on Mondays, Tuesdays, Wednesdays, Thursdays, and Fridays, from Sept. 1st to 26th. Nervous Diseases—clinical and pathological demonstrations, Dr. Barclay Ness; Digestive Derangements—their Clinical and Laboratory Investigation, Dr. Wm. Maclennan; Abdominal Emergencies—Surgery of General Practice, Dr. Macartney; the Diagnosis and Surgical Treatment of Gall-stones, and Associated Diseases, Dr. J. H. Nicoll; Clinical Aspects of Immunity, Dr. Browning; Demonstrations of cases illustrating Some Affections of the Throat and Nose commonly met with in General Practice, Dr. Walker Downie; and Clinical Demonstrations on Diseases of the Skin, Dr. Wyllie Nicol. The hour is from 9 to 10.30 A.M. Arrangements have been made in such a way that none of the courses overlap as regards hour of meeting. In pathology, courses in Practical Bacteriology and Pathological Histology for graduates will be commenced in the pathological department of the Western Infirmary about the middle of October. The courses will extend over eight weeks, each class meeting thrice weekly. The fee for either course is £3 3*s*., and for both courses £5 5*s*. In the Pathological Institute there is a limited number of rooms specially fitted up for research work, and arrangements can be made for graduates who are desirous of engaging in work of this nature. Those interested in embryology may take out the practical course, or if they desire to do special work may obtain the use of a table in the embryology laboratory with such guidance and help as the lecturer can give. The University also has the right of nomination to a table in the laboratory of the Marine Biological Station at Millport. This station is happily circumstanced as regards the richness and variety of the fauna, which can readily be obtained and kept alive in the tank rooms under approximately natural conditions. It thus offers facilities for various kinds of biological study and particularly for physiological and pharmacological work on the marine invertebrates. Further information regarding the station can be got from the honorary secretary, Mr. Geo. Middleton, 83, Bath-street, Glasgow. Post-graduate instruction in public health laboratory work is given in the University laboratory during both winter and summer sessions, and opportunities are offered under prescribed conditions for original research work. As regards physiology and materia medica, every facility is afforded to those wishing to engage in original research work. During the winter months classes in physiological chemistry and physiological psychology will be conducted by the University lecturers in these subjects. At Anderson's College Medical School the Public Health Laboratory course, conducted by Dr. Carstairs Douglas, is open to all qualified medical practitioners (including women), and is recognised for the Diploma in Public Health by the University of Cambridge, the Scottish Conjoint Board, and the Irish Colleges. The laboratory is fully equipped, and the complete course in Chemistry, Bacteriology, and Microscopy is carried out. It is supplemented when desired by a three months' course of lectures on Sanitation, Vital Statistics, and Sanitary Law, attendance on which enables candidates to dispense with three months of the outdoor Public Health work. The course will commence about the middle of October. As regards Operative Surgery, graduates desirous of taking out a course in this subject can obtain the necessary facilities by arrangement with the Dean of Anderson's College. The new Maternity Hospital gives exceptional scope for post-graduate work. There are 110 beds and a large outdoor department. The fees for post-graduate work are £3 3*s*. for a month, £6 6*s*. for three months, and £10 10*s*. for six months. There is also a residence in the hospital grounds for 15 men, and available both for graduates and students, board and lodging being charged at £1 7*s*. 6*d*. per week. At St. Mungo's College qualifying courses in Public Health Laboratory work are held both in the winter and summer sessions, at suitable hours, under the personal direction of Dr. David McKail. Post-graduate courses in Practical Bacteriology are likewise conducted by Dr. David McCrorie in the new Pathological Department of the Royal Infirmary. At the Glasgow Royal Infirmary post-graduate classes will be held during September in the following subjects: Clinical Medicine, Dr. Walter K. Hunter and Dr. W. R. Jack; Clinical Surgery, Mr. Henry Rutherfurd; Clinical Gynæcology (*a*), Dr. G. Balfour Marshall; Clinical Gynæcology (*b*), Dr. J. M. Munro Kerr; Surgical Diagnosis, Mr. Donald Duff; Diseases of the Ear, Dr. J. Kerr Love; Diseases of the Skin, Dr. Alex. Morton; Diseases of the Throat and Nose, Dr. Peter N. Grant; Urology, Dr. David Newman and Dr. David Watson; Clinical Examination of Urine and Digestive Products, Dr. John Henderson; Diseases of the Bladder and Urethra, Dr. A. G. Faulds; Electro-Therapeutics, Mr. James R. Riddell; Anæsthetics (*a*), Dr. H. P. Fairlie; Anæsthetics (*b*), Dr. John Donald. The fee for attendance at each of the above courses is £1 1*s*.; and for any three of them, £2 2*s*.; Diseases of the Eye, Dr. A. Maitland Ramsay and Dr. H. Wright Thomson (fee for course £2 2*s*.); Clinical Gynæcology (*c*), Mr. James Taylor (fee for course £2 2*s*.); Operative Surgery, Mr. Henry Rutherford and Mr. James Battersby (fee for course £3 3*s*.). Application should be forwarded at once to Dr. J. Maxtone Thom. At the Royal Samaritan Hospital for Women, Coplaw-street, Crosshill, Glasgow, a course of Post-graduate Instruction will be given in the hospital during the month of September on methods of examination, injuries to the genital tract, infections of the genital tract, uterine displacements—their medical and surgical treatment, hæmorrhage as a symptom, pain as a symptom, discharge as a symptom, uterine and ovarian tumours, and other subjects. The demonstrations

will be given on Mondays, Wednesdays, and Fridays during the month at 4 P.M., by Dr. Nigel Stark, Dr. A. W. Russell, Dr. W. D. Macfarlane, and Dr. D. Shannon. Fee for course, £1 1*s.*, payable to Miss Morton, the matron of the hospital, from whom further information can be obtained. As there are 90 beds in the hospital, and a large out-patient department, there is ample material for clinical work. During the months of September and October post-graduate demonstrations will be given every Tuesday and Friday, beginning with Tuesday, Sept. 2nd, at 3 o'clock P.M., at the Glasgow Eye Infirmary. The fee is 1 guinea, and the subjects are: Errors of Refraction, Use of the Ophthalmoscope, and Operations.

IRELAND.

Belfast.—At the Queen's University of Belfast a course in Clinical Pathology, consisting chiefly in practical instruction, has been given hitherto during the summer session, and, should a sufficient number desire to attend, a post-graduate course of practical work in the application of methods of chemical physiology to clinical investigation is also held open to practitioners. A course in Clinical Pathology or Bacteriology is given to medical practitioners, and members of this class have an opportunity of seeing the methods employed in the various investigations carried out in this department for the public health committee of the Belfast corporation in connexion with water-supply, sewage disposal, meat- and milk-supply, and the diagnosis of cases of infectious diseases. Subject to the number of students presenting themselves, arrangements are made for the necessary practical instruction (1) in the chemical laboratories; (2) in the pathological and bacteriological laboratories; and (3) for outdoor sanitary work under the medical officer of health of Belfast. These courses have been approved by the Privy Council in connexion with the degree of M.D. in State Medicine in the University of London. The certificates of these courses are also accepted for the Diploma in Public Health granted by the Queen's University of Belfast, the University of Cambridge, and the various licensing bodies. Post-graduate courses are open to practitioners of both sexes. The new medical buildings (with their laboratories and museums) will be ready at the opening of session 1913–14.

Post-Graduate Research Fund.—Grants from this fund may be obtained by graduates in medicine of the University of Belfast of not more than three years' standing. Such research grants are available for graduates who desire to prosecute original research or clinical study in some department of medicine. Applicants must give such evidence of capacity for the work which they desire to prosecute as shall appear satisfactory to the Faculty of Medicine. The holders of such grants must furnish reports of their work either during the prosecution of, or at the close of, their studies. Further information regarding these research grants may be obtained from the Secretary of the University, to whom all applications must be forwarded.

It is proposed to give opportunities for advanced clinical work to graduates at the Royal Victoria Hospital, Belfast. The clinical rooms will afford excellent facilities for carrying on such work. For further information and particulars application should be made to Dr. R. J. Johnstone, honorary secretary, medical staff, 17, University-square, Belfast, or at the hospital.

A post-graduate course of a fortnight's duration will be held this year, beginning on Sept. 22nd. The honorary secretary is Mr. Hugh Stevenson, F.R.C.S. Irel., assistant surgeon, Royal Victoria Hospital, Belfast.

Cork.—At University College a post-graduate course has been held hitherto for the Diploma in Public Health, including Chemistry, by Professor A. E. Dixon; Public Health, by Professor D. Donovan, public health officer of the city of Cork; and Bacteriology, by Professor A. E. Moore. Other professors and lecturers would also give post-graduate courses if requested to do so. No post-graduate courses have up the present been held at the hospitals. All the College and hospital courses are open to men and women students.

Dublin.—Trinity College and the Royal College of Surgeons each make arrangements for a course of post-graduate instruction in the year. The course arranged by Trinity College is held in September–October and occupies three weeks. Instruction is usually given in the following 11 subjects: Medicine, Surgery, Gynæcology, Diseases of Eye, Diseases of Throat, Nose, and Ear, Diseases of Skin, Pathology, Anatomy, Physiology, X Ray Work, and Cystoscopy. One or two teachers deal with each subject, and a detailed syllabus is published beforehand, care being taken to pay special attention to matters of particular interest at the time. The courses in pathology, anatomy, and physiology are designed with special bearings on clinical problems. The classes are held in the School of Physic, Trinity College, and in Sir Patrick Dun's, the Adelaide, the Royal City of Dublin, the Rotunda, and the Royal Victoria Eye and Ear Hospitals. Arrangements are made by which a limited number of members of the class can reside in College rooms and dine on commons, at an inclusive cost of £1 1*s.* per week. The composite fee for the entire course is £5 5*s.* The autumn course for 1913 will begin on Sept. 22nd and end on Oct. 13th. Full particulars can be obtained from the honorary secretary, Dr. Alfred R. Parsons, 27, Lower Fitzwilliam-street, Dublin.

A post-graduate course is also arranged under the auspices of the President and Council of the Royal College of Surgeons in Ireland. The object of these courses is to render available the whole of the clinical material in the city for the post-graduate student, so that he may see as much as possible during the brief time at his disposal. With this object in view the ten general hospitals of the city are included (Richmond, Jervis-street, Adelaide, St. Vincent's, Dr. Steevens', Mater Misericordiæ, Meath, Mercer's, Royal City of Dublin, and Sir Patrick Dun's), and also the various hospitals which are devoted to "specialties." The opportunities afforded are shown by a glance at the list of special subjects and the institutions where they are respectively cultivated: Skin, Adelaide Hospital; Eye and Ear, Royal Victoria Eye and Ear Hospital; Throat and Nose, Mater Misericordiæ Hospital and Sir Patrick Dun's Hospital; Gynæcology, Rotunda Hospital, Coombe Hospital, and National Maternity Hospital; X Ray and Light Therapeutics, Meath Hospital and Sir Patrick Dun's Hospital; Pathology and Bacteriology, Richmond, Whitworth, and Hardwicke Hospitals, Mater Misericordiæ Hospital, Meath Hospital, and School of Surgery, Royal College of Surgeons; Diseases of Children, Orthopædic Hospital, Temple-street Hospital, and Harcourt-street Hospital; Lunacy, Richmond District Lunatic Asylum; Anæsthetics, Dental Hospital; Cadaver Operations, Professors at Schools of Surgery, R.C.S.I.; Anatomy, Professor of Anatomy, R.C.S.I.; Sanitary Science, Professor of Hygiene, R.C.S.I. The course for 1913 will begin on Monday, Sept. 22nd, and will terminate on Oct. 13th following. Fee for course, inclusive of all, £5 5*s.* For Surgery only £3 3*s.*, for Medicine only £2 2*s.*, for special course £1 1*s.* Full details regarding the course can be obtained from, and all applications are to be addressed to, the Secretary of the Post-Graduate Course, Royal College of Surgeons in Ireland.

In addition to the special courses detailed above, arrangements can be made at the various laboratories and hospitals for individual post-graduate work. In particular the practice of the maternity hospitals, the Rotunda, the Coombe, and the National Lying-in, is made much use of by graduates from all parts of the world. All courses are open to women practitioners on the same terms as to men.

THE Hospital Saturday street collection in Portsmouth on August 30th amounted to £445 13*s.*, being nearly £100 more than last year, and when the full returns are received they will probably be found to constitute a record. This result is the more gratifying because it is the second street collection within three months for hospital purposes.

UNIVERSITY OF ZURICH.—From Oct. 13th to 25th 18 professors and lecturers (*privat-docenten*) at the University of Zurich will hold daily lectures—in all 78—on the various subjects of interest to medical men. Professors Eichhorst, Sauerbruch (surgery), Haab (ophthalmology), Bleuler (psychiatrics), Cloetta (pharmacology), Feer (pædiatrics), von Monakow (neurology) have promised to take part. Each professor holds about four lectures. This is the first time the Medical Society of the Canton of Zurich has been able to organise such a course of lectures. The fee for admission is 30 francs.

Public Health.

ANNUAL REPORTS OF MEDICAL OFFICERS OF HEALTH.

County Borough of Salford.—An interesting section of Mr. C. H. Tattersall's annual report on the health of Salford for 1912 contains a new life table for the borough, based on the Census population and the mortality experience of the years 1901–10. As a similar life table was prepared for Salford on the experience of the ten years 1891–1900, a valuable basis is available for comparison. The Census male population had grown from 106,792 in 1901 to 111,673 in 1911, but it was noteworthy that there was an actual decrease of 1204 in the numbers living at the age periods from 10 to 25 years, the figures for these periods being 32,964 in 1901, and 31,760 in 1911. A similar decrease was apparent in the female population at the age group 15 to 25. This is a new feature of the Census figures, no such abnormality being shown by comparison of 1901 with 1891, and as the deaths during the age periods in question have relatively been decreasing in number the fall in population at these ages can only be attributed to the emigration from the district of a considerable number of young people of both sexes. Mr. Tattersall considers that there must have been a similar movement of population in the higher age periods also, but that this has been covered by the gains from immigration, the newcomers, on the whole, being above 25 years and accompanied by children under 10. The life table has had to take account also of the alterations in the birth-rate, which has evenly and progressively diminished in recent years except in 1901. In that year there occurred the sudden and temporary fall in the fertility of the population of Manchester and Salford, which Mr. Tattersall attributed to the general prevalence of arsenical poisoning, distributed by means of beer, which had then lately taken place. The life table brings into prominence the large reduction in infantile mortality which has occurred in Salford during the past ten years. Thus, out of 100,000 females born the experience of 1891–1900 would have been 65,867 living at the commencement of their fifth year, but that of 1901–10 has increased this number by no less than 9536, the survivors at the commencement of the fifth year being 75,403. The number of survivors at the later age periods also shows gains on the figures for the previous decennium which can be traced up to the age of 55 years. The expectation of life figures of the two decennia are particularly instructive. A male child born in the earlier period had an expectation of life, at birth, of 33 years; in the later period this had increased to 40 years—an improvement of nearly 20 per cent. At the age of 4 the expectations of 48·5 years in the earlier period had increased to 51·5 in the later period; at the age 10, the figures are 44 and 47 years respectively; at 20, 36 and 38 years; at 30, 28 and 29 years; at 40, 20 and 21 years; at 50, 15·5 and 16; at 60, 10·5 and 11; and at 70, 6·5 and 7. Females are shown to have a higher expectation of life at all age periods until advanced old age is reached. For 1901–10 a female child at birth had an expectation of 44·5 years of life as compared with a male expectation of 40 years. Boys and girls living until they are 4 years of age, according to the new life table, would on an average live to be 55 and 58 years old, while if they reach 10 years they would on the average survive until they are 57 and 60 years respectively. If 40 years of age is reached the survival would on the average be to 61 and 65. As an indication of the size of the population considered, it should be added that the population of the borough estimated to the middle of 1912 was 232,726, of which 112,334 were males and 120,392 females.

City and County of Newcastle-upon-Tyne.—The annual report for 1912 is made jointly by Mr. Henry E. Armstrong, who to the general regret has retired after nearly 40 years' strenuous service to the city of Newcastle and to the science of hygiene, and by Dr. Harold Kerr, the present medical officer of health, who had acted with Mr. Armstrong for several years before his appointment. As usual, the report contains much material which is valuable to those who wish to compare the vital statistics and methods of administration of large towns with those of Newcastle-upon-Tyne. We may extract the following table, which analyses the condition as to housing, judged by the number of rooms occupied by the family, in the case of the 6333 infants of the poorest class which have been kept under the observation of the health visitors throughout the first year of life from 1908 to 1912. Their total mortality was at the rate of 110 per 1000 births, as compared with an average annual infantile mortality rate for the whole city during these years of 125 per 1000.

Infantile Mortality and the Number of Rooms Occupied by the Family.

Year.	Living in—							
	One room.		Two rooms.		Three rooms.		More than three rooms.	
	Births.	Deaths.	Births.	Deaths.	Births.	Deaths.	Births.	Deaths.
1908	247	32	515	57	312	32	13	2
1909	339	53	694	86	168	32	29	3
1910	536	62	723	68	51	4	7	2
1911	462	68	794	79	77	6	20	1
1912	465	48	746	60	110	6	25	1
Five years ...	2049	263	3472	350	718	80	94	9
Death-rate per 1000 births visited. (Five years.)	128		101		111		96	

The statistics given for the city hospitals relate to the occurrence of mixed infections, average stay in hospital, and other particulars for the past seven years. During this time the experience of "return" cases of scarlet fever has been as follows:—

"Return" Cases for Years 1906–12.

Year.	Total scarlet fever admitted.	"Infecting" cases.		"Return" cases.	
		Number.	Percentage.	Number.	Percentage.
1906	442	7	1·6	10	2·3
1907	390	11	2·8	17	4·4
1908	283	4	1·4	5	1·8
1909	623	23	3·7	30	4·8
1910	465	18	3·9	20	4·3
1911	605	26	4·3	30	4·9
1912	1018	47	4·6	52	5·1

During 1912 swabs were examined from the throats of all scarlet fever cases which exhibited excessive local inflammation, or any membranous exudate, for the detection of diphtheria bacilli. Of these swabs 26 per cent. were found to be positive, while of other swabs taken from noses with purulent discharge as many as 53 per cent. contained diphtheria bacilli. The general scheme of future tuberculosis work was arranged during the year, and in addition to dispensary provision it is proposed to erect a hospital for the accommodation of 60 advanced cases of consumption, as well as to provide 60 sanatorium beds for adults and children in the early stages of the disease. Meanwhile 68 patients were admitted to the corporation beds at Barrasford Sanatorium during the year. The disinfection of houses, bedding, and clothing of tuberculous cases has added considerably to the work of the sanitary staff, and a special inspector is now appointed for the purpose. The report details the work which is being done, notwithstanding the difficulties created by the absence of legislation, to diminish bovine tuberculosis and to reduce the introduction into the city of milk containing tubercle bacilli, and indicates the large increase which has taken place in the scope of the work of the veterinary department.

REPORTS OF SCHOOL MEDICAL OFFICERS.

Carnegie Dunfermline Trust.—The existence of the Carnegie Trust places Dunfermline in a fortunate position of considerable independence with regard to educational matters. The report now before us by the chief medical officer, Dr. L. D. Cruickshank, shows that these special opportunities are being made good use of, and it is a document well worth study by the school medical officers and educationists in less fortunately situated districts. Thus Dunfermline was able to open the first portion of the school clinic in 1910, the work has continued to expand since this date, and the trustees have decided to erect a "magnificent fully equipped school clinic and school of hygiene at a cost of £20,000." Most local authorities are still coping with the organisation of means of medical treatment for the defects discovered on inspection. Dunfermline is already tackling the further problem of removing the causes which operate in the production of these defects. Dr. Cruickshank says: "The aim of the school medical officer should be to maintain an ideally healthy life, both in the school and in the home, for every child under his care;" and further, that our standard should be so high that we should "at once demand a reason for any child being below a condition of abundant health." The report goes on to say that "in the great educational renaissance which we desiderate, the trustees have an opportunity for establishing in Dunfermline a leading centre and training school in the hygienics of physical education in the widest sense of the term." The method of inspection comprises an examination of each child four times during school life. Other children, apart from routine cases, are weighed and measured and have a general survey of their condition made. If any suspicion of ill-health or defect is aroused a complete examination is made. All "special" cases are examined annually, and a few more frequently. The clinic is open every week-day for four hours (two only on Saturday), and special arrangements may be made with the headmasters to send children to the clinic during school hours. Parents attend badly at the school inspections, but well at the clinic. Following-up work is done by members of a "Civic Guild" and by school nurses, and approximately 80 per cent. of cases found defective on routine inspection received the necessary treatment. A special department of the clinic deals with remedial exercises and is liberally furnished with the necessary gymnastic apparatus of the Swedish type. Massage is also given, and sprain, flat-foot, infantile paralysis, and muscle inflammation have been dealt with. Of these, all but the infantile paralysis recovered, and these latter were greatly benefited. The staff consists of a chief medical officer, three assistant medical officers, one dentist, two nurses, three assistants for clerical and clinic work, and one gymnastic expert for three half days a week. One medical officer and one nurse attend at the clinic daily. Dr. Cruickshank is to be congratulated on the efficiency, not so much of the machine, as of the living health unit he controls, and it is to be hoped that the high ideals he lays before his authority will become realised and give a stimulus and inspiration to others.

Corporation of Dundee.—The report by Dr. A. E. Kidd contains the announcement of the abandoning of the plenum method of ventilation in favour of natural ventilation and adequate warming apparatus; and it is stated that "the new system will be found to be much more hygienic than the former method of heating." Medical treatment is facilitated by an attendance (inspection) clinic, by the coöperation of lady health visitors and of public organisations. 10·9 per cent. of all cases (2082) seen at the attendance clinic were suffering from tuberculosis.

County Borough of Southport.—Dr. G. C. Barnes lays great stress on the necessity for putting "more pressure" upon the parents of defective children to induce them to take advantage of schemes of treatment. But his remarks on the matter indicate that he has not understood the nature of the difficulties which stand between school medical diagnosis and treatment. It is stated that the parents of over 100 children will not "condescend" to visit the ophthalmic surgeon; and it is noted that of 222 cases "crying out for surgical interference" only "23 have been operated on and cured." Again, arrangements have been made for treatment of ringworm by X rays, but "no parents have consented to have their children treated in this way." No doubt some of the difficulties must be put down to the peculiar characteristics of a seaside health resort, the industries of which consist in catering for residents and visitors. But much the same conditions prevail in other seaside places—e.g., Brighton—where school clinics work satisfactorily. The paragraph on the free meals provided gives the average caloric value as 706, and notes that the proteid and fat were insufficient.

Borough of Chesterfield.—Only one quarter of the children whose parents received notices of defects were treated, and this despite the existence of a "Civic Guild" actively helping in the work. An inspection clinic exists which is held on two afternoons a week, but Dr. F. A. Sharpe is of opinion that either a consolidation of existing means of treatment must be obtained or "further means" established.

Borough of Scarborough.—Mr. C. J. W. Tatham is fortunate in having at his disposal a school clinic at which treatment is carried out by a nurse under the supervision of the medical officers. The clinic is used to keep attendance regular; all cases excluded from school and all cases absent for medical reasons are seen at home by the school nurse. In most cases of defect treatment has been obtained. Scarborough possesses a municipal school for mothers, organised through the health office, and under the management of the school nurse. In addition, two meeting-rooms in the east and west wards are provided at the expense of the council for use in the winter months. Meetings of mothers at which babies are weighed are held once a month, and tea is provided. A municipal baby show has also been held on several occasions. An investigation on eye-colour carried out in the case of 1128 boys and 1071 girls shows the fair blue-eyed type in a minority in a district where a large Scandinavian element exists.

County of the Isle of Ely.—Dr. Bertram L. T. Barnett has to report a doubling of the number of unclean children recorded. The teachers do not appear to have a sufficiently high standard. Boots are very good, rheumatic fever is not at all common among children in this county, and heart disease is only rarely found during medical inspection. Of children recommended for treatment about 1 in 5 received it. Means of treatment are not easy of access, and the parents are "extremely deliberate" in taking advice, sometimes doing so eight or ten months after receiving it.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

In the 96 English and Welsh towns, with populations exceeding 50,000 at the last Census and whose aggregate population at the middle of this year is estimated at 17,852,766 persons, 8695 births and 4536 deaths were registered during the week ended Saturday, August 23rd. The annual rate of mortality in these towns, which had been 11·6, 12·0, and 13·3 per 1000 in the three preceding weeks, fell to 13·2 per 1000 in the week under notice. During the first eight weeks of the current quarter the mean annual death-rate in these towns averaged 11·9, against 11·1 per 1000 in London during the same period. Among the several towns the death-rates in the week under notice ranged from 5·4 in Ealing, 6·0 in Ilford, 6·4 in Great Yarmouth, 6·5 in Hornsey, and 6·9 in Bournemouth and Northampton, to 20·7 in Barnsley, 20·9 in Swansea, 22·2 in Dudley, 23·4 in Walsall, and 26·8 in Aberdare.

The 4536 deaths from all causes in the 96 towns were 33 fewer than the number in the previous week, and included 813 which were referred to the principal epidemic diseases, against numbers rising from 281 to 751 in the seven preceding weeks. Of these 813 deaths, 649 resulted from infantile diarrhœal diseases, 48 from measles, 37 from diphtheria, 36 from whooping-cough, 31 from scarlet fever, and 12 from enteric fever, but not one from small-pox. The mean annual death-rate from these diseases in the week under notice was equal to 2·4, against 1·6 and 2·2 per 1000 in the two preceding weeks. The deaths of infants (under two years of age) attributed to diarrhœa and enteritis, which had been 264, 391, and 581 in the three preceding weeks, further rose to 649 in the week under notice, and included 122 in London, 44 in Liverpool, 40 in Birmingham, 39 in Manchester, 27 in Leeds, 25 in Rhondda, and 22 in Sheffield. The fatal cases of measles, which had declined from 77 to 56 in the three preceding weeks, further

fell to 48 in the week under review, and included 10 in Stoke-on-Trent, 7 in London, 4 in Dudley, and 3 each in Liverpool, Oldham, and Aberdare. The deaths from diphtheria, which had been 36, 25, and 34 in the three preceding weeks, rose to 37; 4 deaths occurred in Leeds, 3 in Bristol, and 2 each in London, Norwich, Gloucester, Salford, Cardiff, and Swansea. The deaths from whooping-cough, which had been 47, 45, and 49 in the three preceding weeks, fell to 36, and included 6 in London, 4 in Manchester, and 3 each in West Ham and in Bolton. The fatal cases of scarlet fever, which had been 18, 21, and 22 in the three preceding weeks, rose to 31, and included 7 in London, 4 in Liverpool, and 3 in Birmingham. Of the 12 deaths from enteric fever, 4 were registered in London and 2 in Preston.

The number of scarlet fever patients under treatment in the Metropolitan Asylums and the London Fever Hospitals, which had been 2125, 2131, and 2124 in the three preceding weeks, further fell to 2070 on Saturday, August 23rd; 239 new cases were admitted during the week, against 258, 244, and 230 in the three preceding weeks. These hospitals also contained on August 23rd 814 cases of diphtheria, 177 of measles, 226 of whooping-cough, and 44 of enteric fever, but not one of small-pox. The 1023 deaths in London were 21 fewer than the number in the preceding week, and corresponded to an annual rate of 11·8 per 1000. The deaths referred to diseases of the respiratory system, which had been 108, 115, and 130 in the three preceding weeks, fell slightly to 128 in the week under notice, but were 3 above the number recorded in the corresponding week of last year.

Of the 4536 deaths from all causes in the 96 towns, 167 resulted from various forms of violence and 357 were the subject of coroners' inquests. The causes of 44, or 1·0 per cent. of the total deaths, were not certified either by a registered medical practitioner or by a coroner after inquest. All the causes of death were duly certified in London, West Ham, Portsmouth, Bristol, Leicester, Nottingham, Salford, Leeds, Sheffield, and in 64 other smaller towns. Of the 44 uncertified causes of death, 9 were recorded in Birmingham, 6 in Liverpool, 3 in Stoke-on-Trent, and 3 in St. Helens.

In the 96 English and Welsh towns 8588 births and 4607 deaths were registered during the week ended Saturday, August 30th. The annual rate of mortality in these towns, which had been 12·0, 13·3, and 13·2 per 1000 in the three preceding weeks, rose to 13·5 per 1000 in the week under notice. During the first nine weeks of the current quarter the mean annual death-rate in these towns averaged 12·1, against 11·2 per 1000 in London during the same period. Among the several towns the death-rates last week ranged from 4·8 in East Ham, 5·8 in Reading, 6·6 in Ilford, 7·2 in Darlington, and 7·5 in Derby, to 20·7 in Tynemouth, 21·2 in Walsall, 21·3 in Wigan, 22·5 in Rhondda, and 23·2 in Dewsbury.

The 4607 deaths from all causes in the 96 towns were 71 in excess of the number in the previous week, and included 991 which were referred to the principal epidemic diseases, against numbers steadily rising from 281 to 813 in the eight preceding weeks. Of these 991 deaths, 837 resulted from infantile diarrhœal diseases, 50 from whooping-cough, 43 from measles, 36 from diphtheria, 14 from scarlet fever, and 11 from enteric fever, but not one from small-pox. The mean annual death-rate from these diseases rose to 2·9 per 1000 last week, against 2·2 and 2·4 in the two preceding weeks. The deaths of infants (under 2 years of age) attributed to diarrhœa and enteritis, which had steadily increased from 149 to 649 in the six preceding weeks, further rose to 837 last week; of this number 174 occurred in London, 65 in Birmingham, 61 in Liverpool, 41 in Manchester, 30 in Rhondda, 24 in Sheffield, 22 in Leeds and in West Ham, and 21 in Birkenhead. The deaths referred to whooping-cough, which had been 45, 49, and 36 in the three preceding weeks, rose to 50 last week, and included 11 in London, 5 in Manchester, 4 in Hull, and 3 each in Stoke-on-Trent, in Bolton, and in Oldham. The fatal cases of measles, which had declined from 77 to 48 in the five preceding weeks, further fell to 43 last week; 7 deaths were recorded in Oldham, 6 in Liverpool, 5 in London, 3 in Stoke-on-Trent, and 3 in Manchester. The deaths attributed to diphtheria, which had been 25, 34, and 37 in the three preceding weeks, were 36 last week, and included 6 in London, 3 in Sheffield, and 2 each in West Bromwich, Birmingham, Leicester, Nottingham, South Shields, and Rhondda. The deaths referred to scarlet fever, which had steadily risen from 15 to 31 in the five preceding weeks, declined to 14 last week, and included 3 in Birmingham, 3 in Manchester, and 3 in Sheffield. The fatal cases of enteric fever, which had been 13, 9, and 12 in the three preceding weeks, were 11 last week, of which number 3 were registered in London and 2 in Hull.

The number of scarlet fever patients under treatment in the Metropolitan Asylums and the London Fever Hospitals, which had been 2131, 2124, and 2070 at the end of the preceding three weeks, rose to 2115 on Saturday last; 331 new cases were admitted during the week, against 244, 230, and 239 in the three preceding weeks. These hospitals also contained on Saturday last 801 cases of diphtheria, 221 of whooping-cough, 146 of measles, and 40 of enteric fever, but not one of small-pox. The 1045 deaths in London were 22 in excess of the number in the previous week, and were equal to an annual death-rate of 12·1 per 1000. The deaths referred to diseases of the respiratory system, which had been 115, 130, and 128 in the three preceding weeks, further fell to 124 last week, but were 33 above the number recorded in the corresponding week of last year.

Of the 4607 deaths from all causes in the 96 towns, 153 resulted from various forms of violence and 328 were the subject of coroners' inquests. The causes of 32, or 0·7 per cent., of the total deaths were not certified either by a registered medical practitioner or by a coroner after inquest. All the causes of death were duly certified in London and its 14 suburban districts, in Sheffield, Bristol, Bradford, Newcastle-on-Tyne, Nottingham, Portsmouth, and in 59 other smaller towns. Of the 32 uncertified causes of death, 10 were registered in Birmingham, 3 in Liverpool, and 2 each in Stoke-on-Trent, St. Helens, Sunderland, South Shields, and Rhondda.

HEALTH OF SCOTCH TOWNS.

In the 16 largest Scotch towns, with an aggregate population estimated at 2,259,600 persons at the middle of this year, 1048 births and 612 deaths were registered during the week ended Saturday, August 23rd. The annual rate of mortality in these towns, which had been 14·8, 14·1, and 13·1 in the three preceding weeks, rose again to 14·1 per 1000 in the week under notice. During the first eight weeks of the current quarter the mean annual death-rate in these Scotch towns averaged 13·7, against 11·9 per 1000 in the 96 large English towns. Among the several Scotch towns the death-rates in the week under review ranged from 6·1 in Clydebank and in Ayr, 6·5 in Kirkcaldy, and 8·9 in Motherwell, to 13·1 in Aberdeen, 16·7 in Glasgow, 17·6 in Hamilton, and 17·7 in Paisley.

The 612 deaths from all causes were 45 above the number in the previous week, and included 88 which were referred to the principal epidemic diseases, against 79 and 80 in the two preceding weeks. Of these 88 deaths, 57 resulted from infantile diarrhœal diseases, 15 from measles, 7 from diphtheria, 6 from whooping-cough, and 3 from scarlet fever, but not one from enteric fever or small-pox. These 88 deaths from the principal epidemic diseases corresponded to an annual death-rate of 2·0, against 2·4 per 1000 in the 96 large English towns. The deaths of infants (under 2 years of age) attributed to diarrhœa and enteritis, which had been 21, 39, and 45 in the three preceding weeks, further rose to 57 in the week under notice, and included 37 in Glasgow, 5 in Greenock, and 3 in Edinburgh. The fatal cases of measles, which had been 16, 20, and 13 in the three preceding weeks, rose to 15, and included 11 in Glasgow and 3 in Hamilton. The deaths from diphtheria, which had been 5, 6, and 10 in the three preceding weeks, fell to 7, and included 5 in Glasgow and 2 in Aberdeen. The deaths from whooping-cough, which had been 14, 10, and 11 in the three preceding weeks, fell to 6, and included 3 in Glasgow. Of the 3 deaths from scarlet fever 2 were registered in Glasgow.

The deaths referred to diseases of the respiratory system, which had been 83, 79, and 44 in the three preceding weeks, rose to 66 in the week under review; 27 deaths resulted from different forms of violence, against 27 and 28 in the two preceding weeks.

In the 16 largest Scotch towns 1063 births and 611

deaths were registered during the week ended Saturday, August 30th. The annual rate of mortality in these towns, which had been 14·1, 13·1, and 14·1 per 1000 in the three preceding weeks, was again 14·1 per 1000 in the week under notice. During the first nine weeks of the current quarter the mean annual death-rate in these Scotch towns averaged 13·8, against 12·1 per 1000 in the 96 large English towns. Among the several Scotch towns the death-rates last week ranged from 5·1 in Motherwell, 8·8 in Falkirk, and 10·4 in Kirkcaldy, to 15·4 in Greenock, 18·3 in Paisley, and 21·4 in Ayr.

The 611 deaths from all causes were 1 fewer than the number in the previous week, and included 99 which were referred to the principal epidemic diseases, against numbers rising from 61 to 88 in the four preceding weeks. Of these 99 deaths, 65 resulted from infantile diarrhœal diseases, 10 from scarlet fever, 9 from measles, 9 from whooping-cough, 5 from diphtheria, and 1 from enteric fever, but not one from small-pox. These 99 deaths from the principal epidemic diseases were equal to an annual death-rate of 2·3, against 2·9 per 1000 in the 96 large English towns. The deaths of infants (under 2 years of age) attributed to diarrhœa and enteritis, which had steadily risen from 21 to 57 in the four preceding weeks, further rose to 65 last week; of this number 37 were recorded in Glasgow, 9 in Paisley, 4 in Dundee, 4 in Hamilton, 3 in Leith, and 3 in Clydebank. The 10 deaths referred to scarlet fever, of which 3 occurred in Glasgow and 3 in Aberdeen, were 6 in excess of the average in the earlier weeks of the quarter. The fatal cases of measles, which had been 20, 13, and 15 in the three preceding weeks, declined to 9, and included 6 in Glasgow. The deaths attributed to whooping-cough, which had been 10, 11, and 6 in the three preceding weeks, rose to 9 last week, of which 6 were recorded in Glasgow. The 5 deaths referred to diphtheria were equal to the average in the earlier weeks of the quarter, and included 3 in Glasgow. The fatal case of enteric fever occurred in Greenock.

The deaths referred to diseases of the respiratory system, which had been 79, 44, and 66 in the three preceding weeks, were 69 last week; 22 deaths resulted from various forms of violence, against 28 and 27 in the two preceding weeks.

HEALTH OF IRISH TOWNS.

In the 27 town districts of Ireland, with an aggregate population estimated at 1,199,180 persons at the middle of this year, 611 births and 431 deaths were registered during the week ended Saturday, August 23rd. The annual rate of mortality in these towns, which had been 16·6, 15·5, and 19·2 in the three preceding weeks, fell again to 18·7 per 1000 in the week under notice. During the first eight weeks of the current quarter the mean annual death-rate in these Irish towns averaged 16·7 per 1000; in the 96 large English towns the corresponding rate did not exceed 11·9, while in the 16 Scotch towns it was equal to 13·7 per 1000. The annual death-rate in the week under review was equal to 19·5 in Dublin (against 11·8 in London and 16·7 in Glasgow), 18·7 in Belfast, 24·5 in Cork, 21·6 in Londonderry, 8·1 in Limerick, and 13·3 in Waterford, while in the 21 smaller towns the mean death-rate did not exceed 17·3 per 1000.

The 431 deaths from all causes were 11 below the number in the previous week, and included 84 which were referred to the principal epidemic diseases, against 58 and 84 in the two preceding weeks. Of these 84 deaths, 71 resulted from infantile diarrhœal diseases, 4 from whooping-cough, 3 from measles, 3 from scarlet fever, 2 from diphtheria, and 1 from enteric fever, but not one from small-pox. The mean annual death-rate from these diseases was equal to 3·7 per 1000; in the 96 large English towns the corresponding rate was equal to 2·4, while in the 16 Scotch towns it did not exceed 2·0 per 1000. The deaths of infants (under 2 years of age) attributed to diarrhœa and enteritis, which had been 28, 47, and 63 in the three preceding weeks, further rose to 71, and included 33 in Belfast, 21 in Dublin, 5 in Cork, and 3 in Londonderry. The fatal cases of whooping-cough, which had been 2, 1, and 5 in the three preceding weeks, were 4 in the week ended August 23rd, and included 3 in Galway. The deaths from scarlet fever, which had been 2, 1, and 4 in the three preceding weeks, were 3 in the week under notice, and included 2 in Belfast. The death from enteric fever was registered in Belfast, and 2 of the 3 deaths from measles in Londonderry.

The deaths referred to diseases of the respiratory system, which had been 42, 43, and 51 in the three preceding weeks, were again 51 in the week under notice. Of the 431 deaths from all causes, 108, or 25 per cent., occurred in public institutions, and 11 resulted from different forms of violence. The causes of 16, or 3·7 per cent., of the total deaths were not certified either by a registered medical practitioner or by a coroner after inquest; in the 96 large English towns the proportion of uncertified causes of death did not exceed 1·0 per cent.

In the 27 town districts of Ireland 599 births and 475 deaths were registered during the week ended Saturday, August 30th. The annual rate of mortality in these towns, which had been 15·5, 19·2, and 18·7 per 1000 in the three preceding weeks, rose to 20·7 per 1000 in the week under notice. During the first nine weeks of the current quarter the mean annual death-rate in these Irish towns averaged 17·1 per 1000; in the 96 large English towns the corresponding rate did not exceed 12·1, while in the 16 Scotch towns it was equal to 13·8 per 1000. The annual death-rate last week was equal to 20·4 in Dublin (against 12·1 in London and 15·2 in Glasgow), 23·0 in Belfast, 24·5 in Cork, 24·2 in Londonderry, 10·8 in Limerick, and 24·7 in Waterford, while in the remaining 21 smaller towns the mean death-rate did not exceed 15·9 per 1000.

The 475 deaths from all causes were 44 in excess of the number in the previous week, and included 111 which were referred to the principal epidemic diseases, against numbers rising from 27 to 84 in the five preceding weeks. Of these 111 deaths, 97 resulted from infantile diarrhœal diseases, 6 from measles, 4 from diphtheria, 2 from whooping-cough, 1 from enteric fever, and 1 from scarlet fever, but not one from small-pox. The mean annual death-rate from these diseases last week was equal to 4·8 per 1000; in the 96 large English towns the corresponding rate was 2·9, while in the 16 Scotch towns it did not exceed 2·3 per 1000. The deaths of infants (under 2 years of age) attributed to diarrhœa and enteritis, which had steadily increased from 15 to 71 in the five preceding weeks, further rose to 97 last week; of this number 39 were recorded in Belfast, 28 in Dublin, 9 in Waterford, 5 in Cork, 5 in Londonderry, and 4 in Portadown. The deaths referred to measles, which had been 7, 7, and 3 in the three preceding weeks, rose to 6 last week, and included 2 in Londonderry. The 4 fatal cases of diphtheria, of which 2 occurred in Belfast, were slightly in excess of the average in the earlier weeks of the quarter. The 2 deaths from whooping-cough were recorded in Belfast and Galway respectively, that from scarlet fever in Belfast, and the fatal case of enteric fever in Galway. In addition to the above deaths 2 fatal cases of typhus were registered in Dublin.

The deaths referred to diseases of the respiratory system, which had been 43, 51, and 51 in the three preceding weeks, fell to 43 in the week under notice. Of the 475 deaths from all causes, 134, or 28 per cent., occurred in public institutions, and 6 resulted from different forms of violence. The causes of 6, or 1·3 per cent., of the total deaths were not certified either by a registered medical practitioner or by a coroner after inquest; in the 96 large English towns the proportion of uncertified causes of death did not exceed 0·7 per cent.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE following appointments have been notified:—Fleet-Surgeons: T. W. Philip to the *Victory*, additional, for the *Queen Mary*, for acceptance trials; J. A. L. Campbell to the *Lancaster* on recommissioning; and L. Kilroy to the *Pembroke*, additional, for East London Recruiting District, temporarily, and to the *Ajax* on commissioning. Staff-Surgeons: M. Cameron to the *Hermes* for Royal Naval Flying School, Eastchurch, temporarily; and A. C. W. Newport to the *Ajax* on commissioning. Surgeons: G. A. S. Hamilton to the *Lancaster* on recommissioning; and C. M. R. Thatcher to the *Victory*, additional, for the *Woolwich*, and on commissioning.

ROYAL ARMY MEDICAL CORPS.

Brevet Lieutenant-Colonel Thomas W. Gibbard to be Lieutenant-Colonel, vice W. C. Beevor, C.M.G., retired (dated August 20th, 1913).

Major Herbert J. M. Buist, D.S.O., to be Lieutenant-Colonel, vice O. L. Robinson, supernumerary (dated August 22nd, 1913).

Captain Arthur Waltham Howlett, from the Indian Medical Service, to be Captain, vice Duncan Coutts, who exchanges (dated July 29th, 1913).

Colonel R. H. Firth, Assistant Director of Medical Services to the First (Peshawar) Division of the Northern Army in India, has taken up duty at Headquarters, Cherat. Colonel T. P. Woodhouse, Deputy Director of Medical Services to the Scottish Command, has been selected for appointment as Director of Medical Services at the Aldershot Command Medical Exercises.

Lieutenant-Colonel H. M. Adamson, at present senior medical officer at Strensall, has been placed under orders for a tour of service with the Southern Army in India, embarking Oct. 22nd. Lieutenant-Colonel G. H. Barefoot has been selected to hold charge of the Queen Alexandra Military Hospital, Grosvenor-road, S.W., in succession to Lieutenant-Colonel J. Maher. Lieutenant-Colonel E. Davis has notified his intention of relinquishing medical charge at Jersey. Lieutenant-Colonel H. J. Fletcher, in charge of the Military Hospital at Rawal Pindi Cantonment, has been granted an extension of his Indian tour of service for one year.

Major H. K. Palmer has taken up duty at the Military Hospital, Aden, as Senior Medical Officer to the Aden Brigade, on transfer from the Fifth (Mhow) Division of the Southern Army in India. Major F. A. Symons has been transferred from the Military Hospital at Gosport to Tidworth Park, Salisbury Plain. Major N. J. C. Rutherford, on return to duty from leave of absence on medical certificate, has been placed under orders to join the Irish Command, and on arrival will be appointed to the Cork district for duty. Major A. L. Scott, in charge of the Reception Station at Deepcut and Blackdown, has been placed under orders to embark for a tour of service with the Southern Army in India on Oct. 22nd. Major H. Rogers has arrived home on leave of absence from the Military Hospital at Forrest, Malta. An exchange on the roster for service abroad has been approved between Major H. A. Davidson, serving at the Curragh Camp, and Major F. S. Walker, serving at Queenstown Harbour; the former officer will now proceed to the Straits Settlements for a tour of service instead of the latter. Major J. F. Burke is about to relinquish medical charge at Penally. Major E. V. Aylen has been granted one year's extension of his tour of service in India. Major F. J. Palmer has been transferred from the Military Hospital at Jutogh, Simla Hills District, to the Fifth (Mhow) Division of the Southern Army in India. Major H. S. Thurston has arrived home, tour expired, from Malta. Major H. W. K. Read has been detailed for a tour of service with the Burma Division. Major L. L. G. Thorpe has been transferred from Rollestone Camp to the Military Hospital at Winchester.

Captain V. T. Carruthers, on termination of the course for promotion to the rank of major, has been appointed to the Eastern Command for duty at the Military Hospital, Norwich. Captain J. M. McKenzie, at present attached to the Military Hospital at the Guards Depôt, Caterham, has been placed under orders to embark at Southampton on Oct. 22nd for a tour of service in India, and on arrival will be appointed to the Northern Army. Captain G. Petit has taken up duty at Delhi Cantonment. Captain H. W. Farebrother has been transferred from the Military Hospital at Meiktila to Maymyo, Upper Burma. Captain C. R. Millar has arrived home on leave of absence from the Military Hospital at Sierra Leone Protectorate. Captain F. T. Turner has been granted one year's extension of his tour of Indian service. Captain T. H. Gibbon has been placed under orders to join the Irish Command, and on arrival will be appointed to the Dublin District for duty. Captain T. McC. Phillips has been transferred from the Military Hospital at Fyzabad to Cawnpore Cantonment. Captain F. D. G. Howell has taken over medical charge at Brackenbir Camp, on transfer from the Military Hospital at Shrewsbury. An exchange of positions on the roster for service abroad has been sanctioned between Captain C. E. Fawcett and Captain S. L. Pallant. Captain G. W. G. Hughes has been selected for appointment as Specialist in Ophthalmology at the Military Hospital, Devonport, in succession to Major E. E. Parkes. Captain G. S. Parkinson has been appointed to the Scottish Command. Captain J. A. Turnbull has been appointed to the Southern Army in India for a tour of duty, embarking Sept. 24th. Captain R. G. Archibald has arrived home on leave of absence from duty with the Egyptian Army. Captain W. G. Maydon has been appointed to the Scottish Command for duty. Captain W. C. Smales has taken over medical charge at Lulworth Camp on transfer from the Military Hospital at Portsmouth. Captain C. P. O'Brien-Butler has been granted eight months' leave of absence home from India. Captain P. S. Tomlinson has been detailed for a course of special duty at the Central Research Institute of India at Kasauli. Captain G. Ormrod has been appointed to the Aldershot Command. Captain J. H. Duguid has been selected for appointment as Specialist in Otology and Rhinology in India. Captain W. H. Forsyth has been transferred from the Royal Victoria Military Hospital at Netley to Tidworth Park. Captain A. G. Jones has been appointed Specialist in Electrical Science and Radiography at Rawal Pindi Cantonment. Captain O. Ievers has been appointed to the Eastern Command.

Lieutenant W. Stewart, at present attached to the Military Hospital at Colchester, has been detailed for a tour of duty in India. Lieutenant J. Crocket has been appointed to the Scottish Command for duty. Lieutenant F. R. B. Skrimshire has been placed under orders to embark for a tour of service in India, and on arrival will be appointed to the Southern Army for duty. Lieutenant C. Helm has been ordered to join the Irish Command for duty, and on arrival will be appointed to the Dublin District. Lieutenant A. Hood has been transferred from the Military Hospital at Richmond, Yorks, to Lichfield. Lieutenant J. L. Ritchie has joined at Aldershot. Lieutenant A. A. M. Davies has been appointed to the Northern Command for a tour of duty. Lieutenant H. R. L'Estrange has been detailed for a tour of service at Mauritius. Lieutenant C. M. Ingoldby has been appointed to hold Medical Charge at Mocre Park Camp on transfer from the Military Hospital at Tralee. Lieutenant S. J. Higgins has taken up duty at the Military Hospital, Cork, on transfer from Fermoy. Lieutenant J. K. Gaunt has taken up duty at Scutari on transfer from Malta. Lieutenant J. Hare has been transferred from Belfast and appointed to hold Medical Charge at Magilligan Camp. Lieutenant E. P. A. Smith has been appointed to the Aldershot Command for duty.

ROYAL ARMY MEDICAL COLLEGE.

Lieutenant-Colonel Oliver L. Robinson, Royal Army Medical Corps, to be a Professor, and Major Stevenson L. Cummings, Royal Army Medical Corps, to be an Assistant Professor (dated August 22nd, 1913).

INDIAN MEDICAL SERVICE.

The King has approved of the admission of the undermentioned officer to the Indian Medical Service:—

To be Captain (dated July 29th, 1913, but to rank from July 30th, 1909): Captain Duncan Coutts, by exchange from the Royal Army Medical Corps.

Colonel P. Hehir, Assistant Director of Medical Services to the Burma Division, whose leave of absence home from India expires on Oct. 1st next, has been selected for appointment as Assistant Director of Medical Services to the Sixth (Poona) Division of the Southern Army in India.

Lieutenant-Colonel P. Carr-White, on return from leave of absence home from India, has been appointed Agency Surgeon at Kotah and Jhalawar. The services of Lieutenant-Colonel W. E. Jennings have been placed at the disposal of H.E. the Commander-in-Chief in India. Lieutenant-Colonel J. Penny has arrived home on leave of absence from India.

Major J. Anderson has been selected for appointment as Residency Surgeon at Gwalior. Major J. H. Hugo has been granted an extension of leave of absence home from India. Major W. Harvey has been selected for appointment as Director of the Central Research Institute of India at Kasauli by the Education Department of the Government of India, in succession to Sir David Semple, R.A.M.C., who has retired. Major A. Murphy has been granted eight months' leave of absence home from India on medical certificate. Major J. Husband has been appointed to officiate as Agency Surgeon of the Second Class, and has been posted as Civil

Surgeon to Dera Ismail Khan. Major T. G. Swan has taken up duty as Civil Surgeon at Dalhousie. Major W. G. Hamilton has been granted an extension of his leave of absence home from India. Major H. M. MacKenzie, medical officer, Bahawalpur State, has been granted privilege leave of absence combined with furlough for 17 months.

Captain W. S. McGillvray has been appointed to Burma, for temporary duty in connexion with plague prevention. Captain W. J. Fraser, officiating civil surgeon at Chhindwara, Central Provinces, has been placed under orders for transfer to Kasauli for special duty at the Central Research Institute. Captain P. S. Mills, plague medical officer at Hoshiarpur, has been granted six months' leave of absence home from India. Captain J. R. Newland has been appointed to the United Provinces of Agra and Oudh for service with the travelling dispensaries. Captain F. P. Mackie has been appointed to the Bacteriological Department of the Government of India. Captain G. M. Millar, medical officer in charge of the 54th Regiment of Sikhs, Frontier Force, has passed the proficiency test in Urdu. Captain T. G. F. Paterson has been appointed to Bombay Presidency for civil employment. Captain G. L. Duncan, specialist in the prevention of disease, has been appointed to hold charge of the Bacteriological Research Laboratory at headquarters of the Bannu Brigade. Captain G. Holroyd, officiating superintendent of the Central Jail at Bhagalpur, has been appointed to act as Civil Surgeon of Bhagalpur during the absence on leave of Lieutenant-Colonel J. C. S. Vaughan.

ROYAL NAVAL VOLUNTEER RESERVE.

The undermentioned has been appointed Surgeon: Tom Duncan McEwan (dated August 21st, 1913).

SPECIAL RESERVE OF OFFICERS.

Royal Army Medical Corps.

The undermentioned Lieutenants are confirmed in their rank:—Robert C. Aitchison, Archibald M. McCutcheon, Wellington J. A. Laird, John A. Pridham, Henry C. Sinderson, Walter T. McCurry, Sydney F. M. Cesari, Francis G. Foster, Herbert S. Griffith, Christopher Atkinson, Hugh K. Ward, Henry W. Maltby, Norman V. Lothian, Kenneth A. M. Tomory, John Taylor, William Bird.

George Edward Pepper, late Cadet Sergeant, Royal College of Surgeons in Ireland Contingent, Officers Training Corps, to be Lieutenant on probation (dated July 18th, 1913).

The undermentioned Lieutenants resign their commissions (dated August 27th, 1913): Robert H. Nolan and Henry M. Buchanan.

TERRITORIAL FORCE.

Royal Army Medical Corps.

3rd North Midland Field Ambulance, Royal Army Medical Corps: Captain John Miller, from the 1st Wessex Field Ambulance, Royal Army Medical Corps, to be Captain (dated August 27th, 1913).

3rd London (City of London) Field Ambulance, Royal Army Medical Corps: Lieutenant Reginald Martin Vick to be Captain (dated May 22nd, 1913).

2nd London Sanitary Company, Royal Army Medical Corps: William Arthur Berry to be Lieutenant (dated June 23rd, 1913).

Sanitary Service: Captain Roger McNeill resigns his commission (dated August 23rd, 1913).

3rd Highland Field Ambulance, Royal Army Medical Corps: Major William E. Foggie to be Lieutenant-Colonel (dated May 19th, 1913).

For attachment to Units other than Medical Units.—Morrice Greer to be Lieutenant (dated July 21st, 1913).

Attached to Units other than Medical Units.—Captain Hugh Dickie, Retired List.

THE TERRITORIAL DECORATION.

The King has conferred the Territorial Decoration upon the undermentioned officers of the Territorial Force:—

2nd London (City of London) Field Ambulance, Royal Army Medical Corps: Lieutenant-Colonel William Salisbury Sharpe.

2nd London (City of London) General Hospital, Royal Army Medical Corps: Lieutenant-Colonel Eustace Maude Callender.

Mr. Thomas Edmund Rice, senior sanitary officer, Gold Coast, has been appointed Principal Medical Officer, Sierra Leone.

MEDICAL PRACTICE UNDER THE INSURANCE ACT.

(BY OUR SPECIAL COMMISSIONER.)

(Continued from p. 422.)

XIX.—ALTRINCHAM AND THE EFFECT OF THE ACT ON THE POLITICAL VOTE.

WHEN in Manchester a good deal was said to me about the election that had recently taken place at Altrincham in Cheshire. The Government candidate was supposed to have suffered greatly because of the unpopularity of the National Insurance Act. So much stress was laid on this view of the election that I went to Altrincham to see if there was any special reason why the Act should be viewed with less favour there than in other parts of the country. It is quite clear that the political aspects of the working of the Act may concern the medical man closely; especially will they affect any amendments that are known to be desired.

Altrincham is within easy reach of Manchester. It does not consist for practical purposes of any one borough or united administration, and is but a unit in the Parliamentary constituency which bears its name. Three old villages—Altrincham, Bowdon, and Hale,—formerly independent parishes, have coalesced as they spread. They have but one police, water, and light administration, and similar unity of action exists for other public services. Thus a Greater Altrincham has been formed which has more than 30,000 inhabitants but no legal existence. There still remain the three independent urban districts, each with a council of its own. As the three district councils already have their public services in common, they would, if legally united, make a very good borough and a compact area for the working of the National Insurance Act, but unfortunately this is not the case.

In the county of Cheshire there are 17 truly rural insurance areas and six municipal boroughs. The county area, called by the Act the local area, has a county insurance committee, and there is a county local medical committee to act with it. But Cheshire is too big to be managed by one committee. Therefore, for the purposes of the Act, or rather for matters of detail in the administration of the Act, we have 17 rural and six municipal borough insurance subcommittees. But these subcommittees were only formed several months after the Act came into operation, and when the summer of 1913 was well advanced they had not done anything worth mentioning.

Cheshire Insurance Committee.

Bowdon and Hale are residential districts, but Altrincham is the business and industrial centre, with engineering works and a working-class population. Here a considerable number of medical aid clubs had been established of old, and though contract practice under the Act is a decided improvement on the old club system, the new proposals were keenly opposed by the medical profession. The local practitioners were particularly reluctant to surrender one of the cardinal points of the British Medical Association—viz., the demand for a wage-limit. They have brought forward this question within the County Insurance Committee, but any proposals in this direction were flatly refused by much of the non-medical element composing that committee. The men who were appointed by the county council are sympathetic to the medical profession. The members nominated by the Insurance Commissioners are not so friendly, while the representatives of the insured constitute the majority, and for the most part are members of the old Friendly Societies, and consequently in entire opposition to any proposals of wage-limit. The medical men have found it difficult to deal with the local Committee. Though the personal relations have always been most courteous, there remains the fact that the members of the Committee as a whole possess no knowledge whatsoever of the position, the ethical principles, and the traditions of the medical profession. They are jealous of the medical men whom they accuse of "making a great deal of money out of poor people." Above all, they resent being deprived of the control which, as managers of clubs, they used to exercise over the medical men in their employ. Of course, these are conditions not in any way peculiar to

Altrincham, nevertheless they were prominent features there. When on the spot I could find no special local reason that would account for the fact that the Act is supposed to have caused the Government candidate to lose a considerable number of votes, and can only conclude, if this common report is true, that in Altrincham certain members of clubs and Friendly Societies voted solidly on the Unionist side. All over the country many voters of the insured class object to the principle of compulsion, but this feeling, existing in every part of the country, can hardly have played any especial part in the Altrincham election. But the Act is not popular here. Many insured persons are dissatisfied with the results and complain that they do not get the benefits which they were promised. The medical service is an unwilling service, and therefore it is not surprising if it occasionally fails to work satisfactorily.

The Resistance to the Act.

My tour of investigation began immediately after the passage of the Act, and I expected at first to find the effects of the agitation against the measure very present in every situation; but I did not expect to find the feelings then aroused so strong after the lapse of months. But in Altrincham they are. The bitterness of the feeling against the Act existing throughout the county of Cheshire is best illustrated by the fact that up to the last possible Saturday out of 460 medical practitioners, only eight had gone on the panel. The insurance authorities wanted 130 panel doctors and they only had eight. The Insurance Committee ordered the issue of advertisements asking for the service of medical men, and these were published on the following Monday. Altrincham imitated Bradford and for the same reason. Rather than allow the wholesale importation of strangers the medical practitioners yielded, but not with good grace. They were resentful, they felt they had been coerced and were not at all certain that under the Act they would be adequately paid for their services. At Hyde the medical practitioners agreed not to put the nature of the patients' diseases on their certificates. The Insurance Committee then refused to pay the sick allowance, and so as to save their patients from serious loss the panel doctors finally had to give the details. There are no assistants at Altrincham; a few partnerships existed before the Act came into operation; no firms consisted of more than two partners, and none have been created so as to get over the difficulties of working the Act. That the medical men had to some extent lost the fight they attempted to set up against the Act was freely admitted, but at Altrincham they did not, as in many other places, blame their leaders. On the contrary, it was admitted that the profession as a whole had betrayed the cause. The British Medical Association in seeking to lead the profession had done more than was legally safe. It was a question whether the endeavour to prevent medical men going on the panel might not be qualified as an illegal restriction of trade. Many other and very effective things might have been done, but such a course of action was not to be founded on the legal basis of the British Medical Association. To take effective action in such a crisis as that created by the Act, if the medical profession were truly resolved on combination to alter the measure, it would be necessary to start a new organisation, for the British Medical Association as it now stands could not give its pecuniary support to what would, for all practical purposes, be trade unionism.

An Advantageous Stand Against the Panel.

Once it was recognised that resistance was not possible there was a tendency to run to the other extreme. Many medical practitioners went on the panel and engaged in contract work, though they had never done such a thing before. There is, however, one very remarkable exception to the accepted rule or practice. There is here at Altrincham a well-known practitioner who had many clubs of the better class. The members paid him 4*s.* or 5*s.* a year, and his income from this source amounted to about £350. Then in his district there was little or no intermediary practice between the clubs and the better class that pays full fees. Under these circumstances this practitioner had everything to gain by going on the panel where he would have retained most of his club patients, but at the higher Insurance Act rate, and probably obtained many new ones. Instead of doing this, however, he elected to be more loyal than the king. He followed the profession in resigning all his club appointments, but refused to follow their example when they yielded and went on the panel. If money had been the only object, it would have been far more advantageous to go on the panel. He would have had many patients earning about £3 a week come to him as insured persons, but as his private practice is among persons who earn more than this it would not have meant any loss of private patients. His action has not, I gather, been without its rewards. Formerly he never had any time to himself. With a list of 1800 members of clubs and 1000 members of the local dispensary he could not enjoy any rest or leisure. This is the usual penalty inflicted on those who do club work well. As matters now stand there is plenty of time for study or recreation, and yet no serious loss of income. In the course of the first five months he attended 50 insured persons who paid him full fees. Had he joined the panel he would have had more work and more money, now he has much less work and nearly as much money.

How the Act was Decried.

On the other hand, the panel doctors, despite the increase of pay over the old club fees, recognised that their work would become more and more exacting. The better-class patients expect the old style of individual treatment, and they are complaining lustily because they cannot get it under the wholesale contract principles of the Act. The Foresters' Society asked their former club doctor, who would not serve them any more and had refused to go on the panel, whether he would take 80 persons who were too old to be insured, and 12 of whom were chronic or permanent invalids, for 8*s.* 6*d.* per annum. The panel doctors do not at present get these old and precarious lives, because for the moment they are not included in the Act; but the work will increase when they are added. The position of the provident dispensary, which had been a self-supporting institution rendering considerable service to the poor, proved here, as elsewhere, a difficult question. The Insurance Act had taken away nearly all the healthy lives, and it could not pay its way with but few and for the most part bad lives. It was feared from the first that the provident dispensary was not likely to survive, and undoubtedly such apprehensions were felt with great regret. For political purposes all these things could fairly be used as electioneering material. The workmen were told that formerly as members of Friendly Societies they got more benefits for 4½*d.* a week than they now did for 9*d.* The fact that the workman does not pay the whole of the 9*d.* was not given equal prominence by all the speakers. But the indignant elector was reminded that he would have none of the death benefits paid under the rules of some of the clubs, and that much of his money was now squandered on an inefficient administrative machinery. The maternity benefits were stigmatised as of but little good, and the sanatorium treatment decried as "a perfect frost." With such material a good speaker could work up quite a strong case that was the more likely to influence the electors as it touched their pockets. In all the electioneering speeches on the Unionist side the worst case was made out for the Act, which, though it is not as good as its wholesale supporters say, has great merits from the public health point of view.

The Proposal to Deal with the Friendly Societies Explained.

Here, as elsewhere, the proposal to negotiate with the Friendly Societies, though they had always been looked upon as opponents, largely contributed to spread confusion in the ranks of the profession. Dr. T. Arthur Helme, of Manchester, known to his credit and honour as being one of the strongest and clearest-headed medical reformers in the country, propounded the idea, and I have had the advantage of obtaining from him an explanation of what really occurred. Dr. Helme fully understood and sympathised with the objections raised throughout the country by medical men against the placing the management of medical affairs in the hands of the lay committees elected by Friendly Societies. He had no intention of increasing the powers of, or of giving any powers whatsoever to, the Friendly Societies. The purport of his suggestion was to decrease the powers—in fact, to abolish altogether the Local Insurance Committees, whose final constitution under the Act is admittedly unsatisfactory to the medical profession. His object was that the

Medical Committee, which in each insurance area was elected by all the members of the profession, should take the place of the Insurance Committee in the administration of the medical benefits under the Act. Thus, through the Medical Committee all the doctors, whether on the panel or not, would have participated in the management. As matters now stand it is, on the contrary, the Friendly Societies which, being largely represented on the Insurance Committees, take an active part in working the Act. But, under the circumstances, it was not possible to banish the Friendly Society element altogether. Besides, there is a phase of their work to which no objection whatsoever has ever been taken, and it was this which Dr. Helme proposed to exploit. He never suggested, he told me, that negotiations should be opened with the Friendly Societies as to any detail whatsoever concerning the administration of the Act. But he thought they might well be employed as the money collecting agents. They would constitute the collecting machinery and hand over the 8*s.* 6*d.* per insured person to the Local Medical Committee. This proposal was never explained nor understood. It was never intended to negotiate with Friendly Societies as to terms, but merely to employ them as collectors, this being a form of work to which they were already accustomed. Unfortunately, the purport of approaching the Friendly Societies was much misunderstood.

Since I was at Altrincham the question of the control of medical benefits by the Friendly Societies has again become acute, owing to an amendment set down by Mr. Godfrey Locker-Lampson to the measure amending the National Insurance Act. The amendment has been withdrawn, but further trouble of this sort may be expected.

(To be continued.)

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

Edinburgh Post-Graduate Courses in Medicine.

THE post-graduate courses in connexion with the University and Royal Colleges began on Sept. 1st, and continue until the 26th of the month. A composite fee is charged for the general medical course, according as the course extends over a month (£5 5*s.*) or a fortnight (£3 3*s.*). For the surgical course a composite fee of £10 10*s.* is charged. An additional fee of £1 1*s.* is charged for each of the following practical classes, in which the accommodation is limited: *Bacteriology, *Diseases of Blood, *Errors of Refraction, Ophthalmoscopy, *Gynæcology, *Gynæcological Pathology, *Histological Methods, X Rays, and Vaccine Therapy. A special course is being given on Ear, Nose, and Throat Diseases and on the *Disorders of the Genito-Urinary Tract. All communications should be made to Mr. George Buckle, secretary, Post-Graduate Courses, University New Buildings, Edinburgh. The courses against which an asterisk has been placed are given in the second fortnight of the month.

Visit of the King and Queen to an Aberdeen Nursing Home.

On August 25th their Majesties the King and Queen paid an unexpected visit to the Northern Nursing Home, Aberdeen. They visited Sir Charles Cust, one of the King's Equerries, who some time ago underwent an operation there. The King and Queen, who were accompanied by H.R.H. Princess Mary, stayed for an hour and a half with the patient, partaking of tea and signing the visitors' book before leaving. As soon as the presence of the Royal visitors became known a large crowd gathered in the vicinity of the nursing home, their Majesties receiving a hearty send off on their return journey to Balmoral.

Gift to Aberdeen University.

Among the scholarships to be founded from the estate of Mr. Robbie, a native of Birse, Aberdeenshire, who died in Ballarat, is one for chemistry. As yet full particulars are not forthcoming, but the bequest is close on £29,000, the principal to be kept intact and the interest to be used in providing perpetual scholarships at Aberdeen University. Mr. Robbie went out from Scotland to Victoria in 1852, and as a shoemaker amassed this considerable fortune by which Aberdeen University is now to benefit to so large an extent.

German Medical Visitors in Aberdeen.

A party of nearly 260 doctors and friends from Germany, who are at present on a tour round Great Britain under the auspices of the Deutsche Zentralkomitee, an organisation for the encouragement of foreign travel among German doctors, spent a strenuous forenoon in Aberdeen. Shortly after 8.30 the visitors were conveyed in launches to the port, where a representative civic and medical company welcomed them. The Fish Market, Municipal Buildings, King's College, Marischal College, and the Art Gallery were visited by the party. The Cathedral of Old Machar had to be unfortunately omitted through lack of time. At King's College Professor Cash welcomed the party, and at the Art Gallery, which was reached about noon, the corporation entertained the visitors to lunch. The Lord Provost, in welcoming them, said how pleased the corporation were to be able to have this opportunity of showing kindly feeling towards a great nation, between which and Britain there were so many bonds of contact and interest. Professor Dietrich, speaking in German, cordially replied, stating that the Zentralkomitee considered it its duty to arrange for foreign travel in order that local conditions might be studied by the medical profession in as far as it affected their work. They much appreciated what they had seen in Aberdeen with regard to medical work and the kind and efficient way everything had been arranged so comfortably for them. A reciprocal hospitality was given when on boarding their liner the visitors were accompanied by a number of Aberdeen citizens whom they had kindly invited to lunch. Among the visiting party may be mentioned Dr. Oliven (general secretary to the Zentralkomitee, Berlin), Professor Dietrich (president), Professor His (Berlin), Professor Glax, Professor Lenhoff, and Professor König.

Administration of National Insurance Act in Lanarkshire.

The county of Lanark Insurance Committee have issued a report on the administration of the National Insurance Act within the county for the year ending July 14th, 1913. So far as the records show, there are approximately 84,000 insured persons within the county of Lanark. That is, as might be expected, the largest number controlled by any county committee in Scotland; Fifeshire and Ayrshire having approximately 60,000 each. The insured persons within the county are divided among the Approved Societies as follows: Friendly Societies, 44,954; Collecting Societies, 26,124; Trade Unions, 11,880; deposit contributors, 1168. The number of Approved Societies operating in Scotland is 313, and of these 177 are represented within the county of Lanark. The largest society is the Prudential Approved Society formed with 8776 members, followed by the Scottish Miners' Federation Friendly Society with 8222 members. There are, however, 109 societies with less than 50 members within the county, and of these 27 have only one member each in the county. Approximately the medical benefit fund will amount to £35,700 per annum, and the amounts available for sanatorium benefit to £5250 per annum. Of the latter sum over £2100 will be applied as an addition to the medical benefit fund.

Ross Hospital, Dingwall.

The interesting history of the Ross Hospital, Dingwall, was alluded to at the opening of a bazaar held in aid of the institution last week by Sir Hector Munro, who presided. The hospital was founded in 1873 by the generosity of the late Dr. Ross, Delny, and originally it had only eight beds. From that it had grown into one of the most important and best equipped hospitals in the Highlands of Scotland, having an infectious diseases ward in a separate building to add to its usefulness. There was a large and distinguished company at the opening of the bazaar.

Ross-shire Medical Officer's Report.

In his annual report on the health of the county of Ross and Cromarty Dr. William Bruce states that the death-rate has gone down to the rate it was in 1900, but it is still rather higher than the average insulo-rural figure. Regarding the health of Lewis, Dr. Murray, the local medical officer of health, says: "The general death-rate and the infant mortality rate are both on the decline, and the death-rate from phthisis shows a reduction for the last two years. There is slow but steady progress in the provision of new and improved houses, and some new wells have been provided. While these indications of progress deserve notice, the unhygienic condition of the houses is still the 'open sore' of

Lewis. Everything goes to show that the housing conditions are responsible for a large proportion of the sickness and mortality in the island. It is unnecessary to labour this point as it is universally recognised. The people themselves are becoming more alive to the relationship between housing and health, and better informed upon matters of practical hygiene generally. This improved sanitary education, however, seems to have had the effect of making many people think that it is useless to try and improve the old houses. They prefer to wait for new ones. ..... The time has come when a beginning should be made in compelling those who are able to make a complete separation between the dwelling and the byre; a mere partition or dividing wall is worse than useless." Dr. Bruce fully endorses all that Dr. Murray says, and makes a strong appeal for the teaching of hygiene in schools.

Sept. 2nd.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

The Riots and the Dublin Hospitals.

THE riots which took place in Dublin last week in connexion with the tram strike put a heavy strain on the hospitals of the city. In Jervis-street Hospital, which is the most centrally situated, the majority of cases of injury were treated. In the 24 hours from 8 P.M. on the 30th to 8 P.M. on the 31st, 320 cases of injuries received in the riots were treated in Jervis-street. Most of the injuries were the results of baton strokes by the police, whose conduct has been severely criticised. One man died of a fractured skull, produced, it is said, by the stroke of a baton. A few constables were injured by stones or bottles used as missiles. It is much to the credit of the several hospitals that their organisation was equal to the unexpected strain thrown on it.

Additional Grant for Certification in Ireland.

In answer to a question of Mr. John Redmond, the Chancellor of the Exchequer recently made an important pronouncement in the House of Commons. He declared that he was satisfied that the grant of £50,000 at present available for expenses due to the absence of medical benefit in Ireland was insufficient to provide for adequate arrangements for certification. If, therefore, a scheme could be devised satisfactory to the parties concerned, he would be prepared to ask Parliament to increase the grant by such an amount as might be necessary, subject to the limit of 2*s.* 6*d.* per insured person which had been imposed in Great Britain not being exceeded in Ireland. The demand of the medical profession in Ireland has been for a sum of 3*s.* per head, or 2*s.* 6*d.* as a minimum. There is, therefore, the possibility of settlement of a question which has given rise to infinite friction in Ireland. It is to be noted, however, that the Chancellor's offer is subject to a scheme "satisfactory to the parties concerned" being devised, and it will require considerable ingenuity to frame a scheme which will satisfy both the Approved Societies and the medical profession. The Insurance Commissioners have burnt their fingers over the panel scheme of their devising, which has been found unsatisfactory even in the areas where the panels are full, and they will not be at all anxious to try their skill again. The societies will, doubtless, attempt to get control of the available funds for the purpose of appointing referees of their own selection, while the medical profession cannot sanction any scheme of certification which does not accept the certificate of the practitioner in attendance as *primâ facie* evidence. Up to the present, with the exception of one or two of the larger societies, the relations between the profession and the societies have not been altogether unfriendly, and it is to be hoped that some practicable scheme may be devised.

The Report on Medical Benefits for Ireland.

The report of the committee appointed to inquire into the question of the extension of the medical benefit to Ireland, of which a summary appeared in THE LANCET of August 9th (p. 439), has been received with indignation by the medical profession of Ireland. The medical benefit was withdrawn from the National Insurance Act, in so far as it dealt with Ireland, in spite of the protests of the profession, and the proposal is now made that the Irish practitioner should give medical attendance to the insured person and his dependents for the same remuneration as the English practitioner receives for attending the insured person alone. It is possible that a medical service on such terms may be arranged. It will not, however, be a service of much use to the public or of credit to the profession.

Insurance Medical Adviser for Belfast.

The Irish Insurance Commissioners have written to the Belfast county borough Local Medical Committee, as well as to the Belfast Insurance Committee, that they propose to appoint a medical adviser whose services will be at the disposal of Approved Societies as regards their members and of the Insurance Committee as regards deposit contributors; and they ask the Local Medical Committee to submit for their consideration the names of three medical practitioners whom they consider suitable. These medical men, the Commissioners say, should be engaged in general practice, should have not less than ten years' experience, and should not be on the panel, and their practice should not be among the insurable class. Their duties are to examine and report upon any insured person referred to them by an Approved Society, the Insurance Committee, or the Commission. Their sole function is to furnish a confidential report as to the capacity or incapacity for work of the person examined. Finally, they are to keep for the information of the Commission a short record of cases referred to them, including the name of the medical man by whom the certificate of incapacity for work has been furnished and the nature of the disease from which the person examined has been certified to be suffering, and the diagnosis of the medical adviser. In sending the communication to the Belfast Medical Committee the Commissioners say "that their attention has been drawn by Approved Societies to the fact that for some time past the incidence of sickness amongst their members resident in the county borough has been abnormally large and the average duration of illness has greatly increased, and it has been alleged that this is due to a certain extent to the indiscriminate giving of certificates by certain medical practitioners and the consequent prevalence of malingering." The Commissioners add that the appointment will be made until Jan. 14th, 1914, in the first instance, renewable after that date, and terminable on either side by one month's notice. The remuneration offered is £300 per annum.

The Tour of the German Physicians.

The party of German physicians, who have been sailing round the British Isles, after visiting Glasgow, arrived in Belfast on August 21st, and having landed at Carrickfergus they proceeded to Portrush and the Giants' Causeway. In the evening they returned to Belfast and were received by the Lord Mayor and Lady Mayoress, who asked a number of citizens to meet them. At nightfall the visitors left for Dublin.

Londonderry Practitioners and the Friendly Societies.

The Friendly Societies, the two medical men brought by them having left, have come to terms with the local profession in this city. 2*s.* 6*d.* per visit is now paid by insured persons, who receive a receipt, on the production of which they get recoupment from their society. The local profession have started a public medical service which over 2000 people have joined, the terms being a weekly payment of 4*d.* for attendance and medicine for the whole household.

Sept. 2nd.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

Antityphoid Measures.

THE Minister of the Interior has addressed a circular to the prefectures suggesting that the advantages should be made known in all the departments of the two authorised antityphoid vaccines, antityphoid vaccination being now recognised as the most rational and practical means of diminishing cases of typhoid fever both in number and gravity. When the number of cases of typhoid fever appear to amount in any locality to an epidemic, departmental inspectors, as well as the directors of municipal bureaux of hygiene and the mayors of the communities, are authorised to place at the disposal of medical men, to whom alone the

necessary discretion is given, the necessary quantities of one or other of the two vaccines—namely, that prepared at the laboratory of the Faculty of Medicine in Paris by Professor Chantemesse and that prepared at Val-de-Grâce under M. Vincent's direction. The Minister of the Interior further recommends to the prefectures to insist on the maintenance of proper water-supplies.

A Legacy to the Pasteur Institute.

An Angoumoisin recently deceased, in constituting the city of Angoulême his general heir, has left all his property to the Pasteur Institute if his wishes are not faithfully carried out. His will also leaves to the Pasteur Institute 90,000 francs to found a prize to be awarded for the best original work in the treatment of meningitis.

Congress of Alienists and Neurologists.

The Twenty-third Congress of Alienists and Neurologists of France and the French-speaking countries has recently been held under the presidency of M. Arnaud, with M. Suttel as the general secretary. The Ministers for the Marine, for War, and for the Interior were officially represented. Among discussions at the Congress we may mention one dealing with the motor troubles in dementia præcox, one on paranoia, and one on persecution mania. M. Lagriffe, M. Dide, M. Hesnard, M. Crocq, M. Régis, M. Delmas, M. Dupré, M. Sérieux, M. Ribert, M. Roger Dupouy, M. Morel, M. Jaquin, and M. Aimé were among those who took part in the discussions.

A Military Sanatorium.

The military authorities have decided that sickly or convalescing soldiers of the Nancy garrison shall be housed, until they are well enough to return to the ranks, in the barrack buildings on the plateau of Malzéville, above Nancy, which for several years have been occupied by a regiment of infantry.

Sausages and Appendicitis.

Injury due to small pieces of the enamel so often employed to-day in cooking utensils has been assigned as a frequent cause of appendicitis. For some months the attention of the sanitary service of the Prefecture of the Seine has been attracted by the methods adopted for preparing sausage-meat, and M. Martel, chief of the veterinary service, has now addressed an interesting note on the subject to the Council of Hygiene. He has discovered, by visits of inspection, that enamel upon all the machines used for making sausages is in a bad condition. Even after being in use for quite a short time he found the enamel scratched or missing, and the missing fragments beyond doubt have found their way into the sausage-meat. Indeed, by radiography it has been possible to detect the fragments of enamel in a large number of sausages. In the face of this evidence the Council of Hygiene has unhesitatingly forbidden the use of enamelled machinery in the preparation of sausages or any food requiring to be minced. The course taken by the Prefecture of the Seine should be reported to the Ministry of the Interior, that the same restriction might hold good for the whole country.

Sept. 1st.

VIENNA.

(FROM OUR OWN CORRESPONDENT.)

The Teeth of School Children.

DURING the last few years the problem of the care of the teeth of the rising generation has received much attention in this country, partly in the interest of the State and partly by the efforts of sociologists. A special society, having this question as its principal object, has been founded in Austria. This "Gesellschaft für Schul-Zahnpflege," as it terms itself, has already erected a special dental clinic in one of the outlying districts of Vienna, and another clinic of a similar kind in Berndorf, one of our largest manufacturing towns, where an institute in complete accordance with modern views provides the required medical or surgical help for suitable cases. In a paper published in the *Oesterreichische Sanitätswesen*, the official organ of the Health Department of the Austrian Home Office, Dr. Wolf, who acts as the secretary of the above-mentioned society, has given a variety of reasons in support of the idea that the State has a great interest in this movement. He said that since a carious condition of the teeth was responsible for much suffering and for the diminution of the power of resistance against diseases, the health of the army was in a high degree dependent upon the hygienic condition of the soldiers' mouths and teeth. In schools a child suffering from toothache was unable to keep abreast of the teaching, it had to be absent from school frequently, its mental activity and perception were impaired, and, on the other hand, the odour from carious teeth, if emanating from numerous children, was a nuisance for the other pupils and the teachers. The cost of combating caries was comparatively very high, but the ethical effect of the hygienic measures adopted was also most valuable, since both parents and pupils were induced to pay more attention to the state of their general health when they saw how much care was taken to keep the teeth in order. At the same time, there was no other disease of equal prevalence which could be combated so easily and so effectively as caries of the teeth. The movement has been accepted by the public with great satisfaction. Even the dental profession is in favour of it, since the bulk of the cases treated in the dental clinics of schools would never have become patients of dentists in private practice, while also care was taken that children whose relatives were able to pay for such dental help were sent to a private dental surgeon and not treated in the clinics.

Increase in the Numbers of Medical Students and Graduates.

The constant increase in the number of students of medicine still continues, although the rate of the increase has gone down a little. The report of the seven universities of Austria for the last (summer) term shows that there were 5768 medical students working in the various medical institutes, or 2·8 per cent. more than in the corresponding period of the preceding year. The number of females amongst them was 410, or about 7·5 per cent. It is interesting to note that the medical students form about 21 per cent. of the total number of students attending our universities, and that the class-rooms in the faculties of law and philosophy were much better filled than those in the faculty of medicine. If these facts are considered in connexion with the number of students who took the degree of M.D. it will be found that in the academical year 1912–13 just completed 300 students, of whom 16 were females, graduated as M.D., the corresponding figures for the year 1911–12 being 257 graduates, of whom 10 were females. The number of graduations of doctors of law was 456 in the year 1912–13, as compared with 381 in 1911–12. The deaths in the medical profession amounted to 136 in this period, so that the net increase is 164, or 1·5 per cent. This shows that either a large percentage of those men who had taken up the study of medicine within the last six years have changed their mind or have not yet completed their curriculum, for the rate of increase of medical students would have led to the expectation of more than 500 graduations per annum.

Forthcoming Congresses in Vienna.

The preparations for the two Congresses which will be held in Vienna this month are now completed, and there is no doubt that both will be quite successful. On the present occasions the programme of banquets and social receptions usually offered to members of congresses will be restricted to such as are absolutely necessary—a measure of self-denial by which much time will be saved and the members will be able to give more attention to serious work than has been the case in the majority of the congresses that have met hitherto. The profession looks forward to these events with great expectations.

Sept. 1st.

BUDAPEST.

(FROM OUR OWN CORRESPONDENT.)

Public Health in Hungary.

THE Statistical Bureau has announced that during last year there were 76,930 deaths from pulmonary tuberculosis, the total population of the country being approximately 20,000,000. The number of children who died under 5 years of age was 228,475. In 43·5 per cent., or nearly one-half of the total deaths, the deceased were children. In this respect Hungary is next to Russia, although our laws and institutions for the protection of infant life are the foremost in Europe. In Budapest alone out of 1000 infants

370 die in their first year, whilst in Stockholm, for example, the corresponding number is 50 and in Christiania it is 30. Another fact to be considered is the abnormal loss of population through emigration, which amounted to 96,324 in the year 1910, to 64,057 in 1911, and to about 100,000 in 1912. The total number of medical men in Hungary is 5746, although even 10,000 would be insufficient. Out of the 5746 about 3000 reside and practise in Budapest, so that for the provinces there remain only from 2500 to 2700. Even at the present time, when the salaries of parish medical men have been increased, there are several counties in which not a single district has a practitioner, and the same remark applies to hundreds of villages whose inhabitants are totally illiterate and ignorant of the elementary rules of hygiene. Of course such places are fertile fields for epidemics, and, in fact, a considerable proportion of the mortality can be ascribed to this fact. It is to be admitted that the law passed in the year 1908 has produced great improvements, because formerly there were places where the salary of the parish medical men amounted to only £10 or £15 per annum. At present the law prescribes that a district medical officer's minimum annual salary shall be £70, which after 20 years' service may rise by £35, and by a special local addition by £50. As the chief statistician says that the high mortality of the country is in a measure due to the absence of medical advice, the Government has largely augmented the salaries of district and parish practitioners with a view to diminishing the present shortage. Dr. Frank, chief medical inspector, said at a recent meeting of the Medical Society that in consequence of the death-rate increasing in Hungary from year to year a two years' course of study of pædiatrics at a university ought to be made compulsory, and the absurd regulation that parish medical officers are entitled to only half fees for treating children ought to be withdrawn. The unreasonableness of this regulation was evident from the fact that from 80 to 90 per cent. of country practice was among children, for in villages a grown-up person did not as a rule send for a medical man unless he was either dying or the unqualified practitioner who had been in attendance had given up the case. The professional earnings of medical men in the country are therefore so small that it is easy to understand why they prefer to suffer poverty in the large towns, and particularly in the capital, rather than bury themselves in villages. Another important deficiency in the public health service is that in the provinces there are no medical men whose duty it is to view the bodies of deceased persons before interment, the result being that bodies may be buried without a proper examination having been made. The new Minister of Internal Affairs, who at the same time is Minister of Public Health, seems to be deeply impressed with the defects of the existing system, and has announced that his chief aim will be the introduction of hygienic reforms.

Hæmorrhagic Small-pox in Hungary.

Last June several cases of hæmorrhagic small-pox occurred in the seaport town Fiume, most of them being fatal. By taking strict precautions it was found possible to check the spread of the disease, and with the exception of two or three cases in the county of Szatmar (about 300 miles from Fiume) no fresh outbreaks have been reported until quite lately. These new cases, which made their appearance in Trieste and along the Dalmatian coast, were all fatal. These patients were strictly isolated, and thanks to the conscientious precautions taken by the medical officers of the shipping and the police the outbreak seems to have come to an end.

August 18th.

AUSTRALIA.

(FROM OUR OWN CORRESPONDENT.)

Outbreak of Small-pox.

ON July 2nd it was officially announced by the Premier of New South Wales that small-pox was prevalent in Sydney in epidemic form. It had been known to the health authorities for some weeks that cases of skin eruption with fever had been prevalent, but it was hoped that they would prove to be chicken-pox. As time went on it became evident that the disease was a mild variola, and was, as stated, officially announced as such. At that date 60 cases were under observation. Since then up to July 28th the total number of cases removed to quarantine has been 350. The type of illness has continued mild, and so far no fatal result has ensued. On July 5th the Governor-General, at the request of the Director-General of Quarantine (Dr. J. H. L. Cumpston), proclaimed an infected area within 15 miles radius of the Sydney Post Office. This step was somewhat resented in Sydney, but it was said to be required in order to give the Federal authorities power to inspect inter-State shipping. As a result, all persons leaving Sydney were required to produce certificates of vaccination, and were inspected both on arrival by sea and at the border railway stations. Partly owing to this proclamation, and partly to the fact that two days later the s.s. *Karoola* from Sydney arrived in Melbourne with a case of small-pox which was discovered on shore, a remarkable public panic set in, with instant demands for vaccination. Notwithstanding the assurances of the Federal health authorities, who control the lymph-supply, that there was abundance available, the sudden strain appeared to dislocate the arrangements for supply. Public vaccination depôts were opened in three or four parts of the city, and for two or three days extra medical men were kept busy day and night. In addition to these depôts the usual public vaccinators were besieged, and in several instances the police had to be called in to restore order in the houses of the medical men, as the people surged in in unmanageable crowds. Private practitioners were kept busy with schools, offices, and factories, and it is estimated that about 150,000 people must have been vaccinated in a few days. The same scenes were witnessed in Sydney after the proclamation for a few days. No case has yet (July 28th) occurred in Victoria except the passenger in the *Karoola*, who with all the ship's company, except eight passengers who could not be traced, were sent to quarantine. In South Australia some cases are reported, the infection being traced to Sydney. In Queensland two or three cases, also traceable from Sydney, are under observation, and a few scattered cases are reported from inland towns in New South Wales. With the exception of Victoria, where vaccination is compulsory, the population of the Australian States are very poorly protected by vaccination. The North Island of New Zealand has experienced a simultaneous outbreak, and upwards of 100 cases have been noted. Three fatal cases have occurred in the Maori patients. This is the first occasion upon which the quarantining of an inland area has been put in force under the Federal Act. With the exception of supervising the lymph-supply and inspecting the shipping the Federal quarantine officers have not interfered, and each State is managing its own local occurrences. No friction has arisen, but in New South Wales the position is somewhat anomalous, since the Federal health officials require all persons coming from the quarantined area into other States to produce certificates, while the New South Wales State Board of Health allows unrestricted intra-State travelling, and in reality all that a passenger from Sydney need do is to stay a night outside Sydney and book from outside the quarantine area. That the system of inspection provides little safeguard has been proved by the fact that the inspecting officer at Melbourne passed the *Karoola* as a clean ship and allowed everybody on shore. The same evening a lady passenger consulted a doctor on shore, who diagnosed small-pox. Further proof is furnished by the fact that the Adelaide cases appear due to a passenger who travelled by train from Sydney and passed through without certificate. The position continues full of anxiety, and the only cheering feature is the readiness with which people are accepting and demanding vaccination. Just at present there is a decided falling off in this respect, due no doubt to the fact that severe reactions are scaring some, but with the recovery of the first batches, confidence will be restored. Small-pox has been mildly epidemic on two or three occasions within limited areas in Australia and Tasmania, but this is the most extensive outbreak yet encountered, and the number of cases under treatment at one time is a quarantine record for Sydney. The Government of New South Wales was approached by a deputation and asked to introduce a compulsory Vaccination Bill. This will be done as soon as Parliament meets. It has been freely said that the Board of Public Health in New South Wales ought to have declared the position long before it did, but the cases were so mild that room for doubt existed as to the nature of the complaint.

Fraudulent Maternity Certificates.

The case brought by the Crown against a medical man and two nurses for having conspired to furnish false information in relation to the maternity bonus claims has been occupying the criminal court in Melbourne for some days. The case for the Crown disclosed that the medical man attended cases of midwifery at a private hospital managed by the women, and the fees were divided on a commission basis. Claims for the bonus were made on births, and it was alleged that some of these were fictitious. For the defence the medical man said that he had no intention of defrauding the Revenue, but being tired he one day signed a number of forms in blank, leaving them to be filled by one of the other defendants. The jury returned a verdict of "Guilty" against the two women, who were sentenced to 12 months' hard labour and a fine of £100. The medical man was acquitted.

Melbourne Hospital.

The new buildings at the Melbourne Hospital have been declared open by Mrs. J. Grice, wife of the president of the hospital committee. They comprise the first portion of the new hospital and include two ward blocks, nurses' and administration quarters. The ward blocks are six storeys high. The new buildings will be ready for occupation by patients in a few days.

Federal Committee of the British Medical Association.

The Federal committee held its third session in Sydney early in July, when representatives of all the States and New Zealand were present. The New Zealand branch wrote regretting it could not see its way at present to federate with the Australian branches. The representation of Australian branches upon the central council of the British Medical Association was allowed to stand over for discussion, and the committee resolved that each State branch be asked to endeavour to induce the State Government to confer with it before introducing any legislation affecting the medical profession. The same request was actually made to the Honourable S. Cook, the Federal Prime Minister, by a deputation of the Federal committee as to Federal legislation, and it was favourably received. Each branch was asked to appoint a committee to study the English National Insurance Act and see what modifications were required for Australia.

July 30th.

Obituary.

WALTER WHITEHEAD, F.R.C.S. EDIN., F.R.S. EDIN.,

CONSULTING SURGEON TO THE MANCHESTER ROYAL INFIRMARY.

BY the death of Mr. Walter Whitehead, which took place at Colwyn Bay on August 19th, Manchester has lost one who was for many years its most widely known surgeon. He had been in failing health for several years, and indeed had retired from all active association with the medical profession ever since 1904.

Born at Haslam Hey, Bury, in 1840, Walter Whitehead was descended from common stock with Robert Whitehead, the inventor of the Whitehead torpedo, and Kay, the inventor of the flying shuttle, was also in his pedigree; but his father, John Whitehead, was in the bleaching business, the family connexion here being some 200 years old. After leaving school he was engaged for some time in his father's business, but finding that bleaching was uncongenial he borrowed money to pay his lecture fees and entered the Chatham Street School of Medicine in Manchester. He has recorded himself that the loan and the intention to become a medical man were in the first instance unknown to his father. While a student he was apprenticed to two medical practitioners at Bury, and subsequently acted as locum tenent for the resident staff at the Manchester Royal Infirmary. He therefore learned his profession in an unusually thorough way, becoming acquainted with the routine of private practice and institutional practice alike. In 1864 he became a Licentiate of the Society of Apothecaries of London and of the Faculty of Physicians and Surgeons of Glasgow, and immediately commenced general practice at Mansfield Woodhouse, Nottinghamshire, where he remained for three years. Young as he was—for he was only 24 when he went to Mansfield Woodhouse—he showed his zealous and scientific temperament by organising a local hospital, his Manchester experience having shown him that the general practice and the hospital resources ought to run together.

In 1866 he became a Fellow of the Royal College of Surgeons, Edinburgh, and a year later moved to Manchester, feeling that he required a larger scope for his energies and undoubted ability. He commenced in general practice, but was quite soon appointed surgeon to St. Mary's Hospital for Women and Children, Manchester. In this post he did a great deal of work among the sick poor, and made himself an authority on the subject of infant mortality, giving evidence before a Committee of the House of Commons on the subject. In 1873, being by this time a marked man both for his practical work and his early writings, he was appointed assistant surgeon to the Manchester Royal Infirmary, an appointment all the more gratifying to him that his residential position there had only been as a locum tenent. Six years later he was appointed honorary surgeon, so that he obtained enormous opportunities as an operating surgeon while still a young man. He was on the active staff of the infirmary until 1900, and most of his well-known work is connected with this institution. He retired and became honorary consulting surgeon at the age of 60. During this period he held other staff appointments in Manchester, although he resigned his surgeoncy to St. Mary's Hospital for Women and Children. He was surgeon to the Manchester and Salford Lock and Skin Hospital, and it was on his initiative that the two classes of cases were separated and the Manchester and Salford Hospital for Diseases of the Skin founded, to which institution he became consulting surgeon. He was honorary surgeon to the Christie Cancer Pavilion, and some of his lingual surgery was done in connexion with this institution; and in 1885, when he was elected president of the Manchester Medical Society, he called attention to the rapid development of cancer, especially among women, in terms which aroused a good deal of attention and showed him to be one of the early clinicians to recognise the increasing mortality due to malignant disease.

In 1894 he was appointed professor of clinical surgery in Owens College, Manchester (Victoria University), Professor Tom Jones being at the same time appointed professor of systematic surgery. Whitehead certainly had the chair for which his talents and experience seemed exactly to fit him, but he made no great mark as a teacher. The professorial appointment came a little too late for him, for whereas in the "eighties" he may be said to have been in the van of scientific surgery, by the time he was 53 some of the inventive keenness that marked his earlier work had passed off. His great clinical ability commanded the respect of his pupils during his six years' tenure of the chair, but he was quite devoid of, if not actually opposed to, the academic spirit. An enumeration of his written contributions to surgical science proves at once his power of original thought and the enormous amount of clinical work that he compressed into the active period of his career. A paper on mucous colitis disease, which he read at a meeting of the British Medical Association at Newcastle as early as 1870, showed him at first as a clinical physician. The paper was founded on the notes of a number of cases of what was at that date a little-known condition, and recommended the administration of potassium bromide over a period of many months, a practical piece of advice for which due reasons were advanced. All his later papers were, however, surgical in character. He was the inventor of several operations, with two of which his name is associated regularly—viz., his methods for the removal of hæmorrhoids and for excision of the tongue. A third operation, a modified procedure for performing tracheotomy, has also brought his name into surgical literature. These various operations have been described by himself in the *British Medical Journal* and in our columns. At the International Medical Congress held in London in 1881 he read a paper on the excision of the tongue before the Surgical Section, which was published in THE LANCET.[1] He described his technique, and was able to quote notes of no less than 28 cases personally operated upon by himself. Ten years later he read a paper on the same subject before the Medical Society of London, which will be found in our columns.[2] Here 139

[1] THE LANCET, Oct. 22nd, 1881, p. 698.
[2] May 9th, 1891, p. 1032.

cases of excision of the tongue were described, an experience that few if any operating surgeons could have equalled. His operation for the excision of piles was first described in the *British Medical Journal*, and at the meeting of the British Medical Association in Brighton in 1887 a further paper was read on the subject, in which 300 consecutive successful cases were recorded. His description of a modified tracheotomy will be found in THE LANCET of 1887. He collaborated with Mr. Bilton Pollard on the article on the surgical treatment of tumours and other obscure conditions of the bladder, which appeared in Treves's System of Operative Surgery, and was himself responsible for the articles on the affections of the mouth and the surgery of the thyroid glands in the same compilation.

Whitehead was certainly a bold, ingenious, and inventive surgeon, and the admirable results of operations designed by himself, and often performed in unconventional manner, well deserved to bring him the popularity that they did. Patients came to him from considerable distances to be operated on, and his records of successes showed how well justified was the faith both of the public and of his colleagues in his skill and experience.

In 1902 he published an *édition de luxe* of a work on Lymphangiectasis, and in the same year he was elected President of the British Medical Association. The success of the meeting at Manchester that year was largely attributable to his efforts and social spirit. In commemoration of the occasion he published a limited private edition of Professor William Stirling's beautiful book "Some Apostles of Physiology." The dedication which precedes this handsome and well-illustrated volume may well serve as an epitome of Whitehead's fame among his colleagues. It runs as follows:—

To
WALTER WHITEHEAD
President
of
The British Medical Association
1902.
Consulting Surgeon to the R. I. Manchester,
Late Professor of Clinical Surgery
in the Victoria University.
Whose love of Art and whose Liberality
made it possible to issue this Volume in a
manner worthy of the event it
is designed to celebrate.

In private life Whitehead was a genial host who enjoyed to see those around him happy, while he had a passion for yachting. After his retirement from practice and during his long final illness he lived at Colwyn Bay, and devoted himself as far as he was able to landscape gardening. He was twice married, and leaves one daughter.

The remains were cremated on August 23rd in the presence of a large gathering of friends, colleagues, and representatives of various institutions and public bodies.

JOHN PATTERSON, M.D. ABERD., L.R.C.S. EDIN.

THE British colony of the Ottoman metropolis and many wide circles of the city at large are mourning the loss of Dr. John Patterson, who died at his residence at Pera on August 11th, at the age of 79, from the effects of pneumonia. He was the oldest British medical practitioner in Constantinople and one of the most sought after by a very numerous international *clientèle*, who had a never-diminishing confidence in his ripe judgment, professional skill, and complete integrity of character. He received his medical training in Edinburgh, and in 1855 became a Licentiate of the Royal College of Surgeons of Edinburgh. In the same year he graduated as an M.B. in the University of Aberdeen, proceeding to the M.D. degree five years later. His career as a student was a successful one, and he obtained several first-class certificates and medals for distinction in different professional examinations.

He early showed an adventurous spirit, for soon after his graduation he engaged as medical officer to an expedition proceeding to the Arctic regions for a variety of scientific investigations, and in the course of his voyage he had many interesting and frequently thrilling experiences. A few years after his Arctic voyage the British Government appointed him as medical officer for the service of the transport administration of Egypt. In this important office he remained ten years, during which time he rendered valuable services to the country. Thus, during the great cholera epidemics that ravaged the population of Cairo and its neighbourhood for many months at a time, he was able to keep the way to India open. This was of inestimable value to the trade and shipping of Great Britain. In recognition of his valuable services during that period the British Government conferred upon him the title of Caimacam of Egypt. He was often called Dr. Patterson Bey, denoting a man of high public distinction, and Queen Victoria gave him a signed permit to accept and wear the insignia of his order. The population of Cairo presented him on his retirement from that city with a gold watch and chain. From Egypt Dr. Patterson went to Constantinople and was appointed head surgeon to the British Seamen's Hospital. In this capacity he served with great distinction for 33 years. In 1880 and 1887 he acted as the British delegate to the Ottoman Health Council. Fifteen years ago he retired on pension, but kept up his connexion with the British Seamen's Hospital as a consulting physician.

Dr. David Sandler writes: "No man more noble and worthy than Dr. Patterson ever lived on the banks of the Bosphorus. He was every inch a gentleman, of a most loving disposition and character. He was kindly, considerate, sympathetic in the highest degree. It was this quality that made him beloved by all his many patients, and honoured and esteemed by those who came into contact with him. He was a man of strong opinions, but those who disagreed with him respected his open and unaffected honesty. All were attached to him. To the end of his days he was active. Although nearly 80 he still delighted in a long walk on foot, and to climb up a steep hill was to him quite an easy matter. His unabated care for his patients was touching. To the poorer classes he was a real friend and a most sagacious physician, and to the last he visited them in the remotest corners of the city. I will conclude by quoting the words spoken to me by Mrs. Patterson, his excellent life-companion: 'I am sorry for those he leaves behind, not for him. He died as he wished, in full harness and in full possession of his clear senses.'"

WILLIAM GAYTON, M.D. BRUX., M.R.C.P. EDIN., M.R.C.S. ENG., F.R.S.E., J.P.,

MEMBER OF THE HONOURABLE SOCIETY OF GRAY'S INN.

Dr. William Gayton, who died from angina pectoris on August 7th at the age of 74, led a very full professional life and discharged many public and private duties with exemplary zeal and tact. After studying at the London Hospital he qualified M.R.C.S. Eng. and L.S.A. in 1860, and for some time he was in general practice in the East end of London.

Dr. Gayton had the distinction of being the first medical superintendent under the Metropolitan Asylums Board. He was appointed 44 years ago to the Eastern Small-pox Hospital, Homerton, and during his 13 years of office there he was also in charge of the Small-pox Camp, Dartmouth, and the hospital ship *Atlas*, off Greenwich. From the Eastern Hospital he went to the North-Western Fever Hospital, Hampstead, where he remained until his retirement at the age of 65. Dr. Gayton was the author of "Notes on Small-pox and its Treatment," "Value of Vaccination as Shown by an Analysis of 10,403 Cases of Small-pox," the article on Small-pox in "Quain's Dictionary of Medicine," "Evidence before Hospitals Commission, 1882," and "Evidence before Vaccination Commission, 1889." He was also the inventor and patentee of a safety fever carriage. For about 12 years he was a justice of the peace for Hampstead (County of London), and he served upon the Pentonville Prison Committee and Lunacy Commission. Dr. Gayton was a keen Freemason. He was a past master of the Sincerity and Loyalty Lodges of Freemasons, a founder and past master of the London Hospital Lodge, and past grand registrar, Essex, of the Hope and Unity Chapter.

Dr. Gayton leaves a widow, four daughters, and one son, who is at present senior assistant medical officer at the Kensington Infirmary.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.—The deaths of the following eminent foreign medical men are announced:—Dr. Bernhard Bardenheuer, who very recently resigned the position of senior surgeon to the Cologne municipal hospital. He was also professor of surgery to the Cologne Academy of Practical Medicine, of which he was one of the most active founders. As a surgeon he was

one of the most distinguished in Germany, and his writings on various surgical subjects, especially on the modern treatment of fractures, are numerous and important. He studied medicine in Berlin, and afterwards worked under Busch at Bonn and Simon at Heidelberg. He also spent a year in Paris, Vienna, and London. During the Franco-German war he was in charge of the lazaret in Cologne, and afterwards settled there in practice. He was 74 years of age.—Dr. K. Saarbourg, of Cologne, surgeon-general in the German army.

Correspondence.

"Audi alteram partem."

NATIONAL INSURANCE ACT CERTIFICATES.

To the Editor of THE LANCET.

SIR,—These somewhat perplexing documents having received the careful consideration of the British Medical Association and other representatives of insurance practitioners, a new form is, I understand, to be issued, which purports to be ethically correct and businesslike. Allow me just a few words of criticism. The form in question starts with "Confidential" and finishes with "Member to fill in other details."

From an ethical point I have no doubt every care has been taken to safeguard the interests of the medical profession, and yet I must point out that if the "declaring on certificate" is the only confidential document, and the continuance of inability is to be made upon the societies' particular form, and after their particular methods which are not termed confidential, the object of the so-called confidential form is defeated; and as the medical man (according to his agreement with the Insurance Committees) cannot legally refuse to sign these documents his position (apart from the risk of legal liability) would be rendered very unpleasant.

Now as to the business or monetary side, this appears to have been entirely overlooked, and no doubt the society members laughed up their sleeves as they apparently gave way on the first confidential certificate, knowing full well that the continuation certificates would be demanded upon their own forms, which not being termed confidential, no matter what shape they might take, must be filled in (free of charge).

The question here arises, how many certificates per member per week is a medical man expected to make out free of charge? The representatives of the medical profession should, I submit, in this their last effort have definitely settled this portion of what still remains, to say the least, a very perplexing question, especially as a continuance certificate on a Government form is so much waste paper and definitely relegated to limbo under the new regulations.

I am, Sir, yours faithfully,

Liverpool, August 28th, 1913. A. M. ST. JOHN WRIGHT.

MEDICAL PRACTICE UNDER THE NATIONAL INSURANCE ACT.

To the Editor of THE LANCET.

SIR,—"It is the only practical remedy by which we can meet a declining sickness rate." Thus ends Dr. Hall's long but unconvincing letter (in THE LANCET of August 9th) on the Insurance Act, and Dr. Cameron Kidd endorses every word of it. We who advocate payment for work done do so on higher grounds.

We are convinced that it is better for the patient, and in most cases it leads to a better class of work on the part of the doctor. Many doctors object to payment for work done because they wish to be paid for work they do not do. Payment for work done is, however, a thing of the past. Private practice except amongst the rich is doomed. Contract work has come to stay, but not in the form of the present Insurance Act, which is absolutely unsound and full of glaring anomalies.

We have missed our chance. The British Medical Association, apart from its initial and fatal blunder in putting payment by capitation in the foreground, did its best to improve the conditions of contract work, and succeeded up to a certain point; but owing to the lamentable lack of honour displayed by many of its members it failed at the last moment when a glorious victory was within its grasp. The result is a discredited and disunited profession. The next item on the programme will be State medical service, if not in name, in reality.

I am, Sir, yours faithfully,

T. CUMING ASKIN, M.D. Dub.

Alderton, Woodbridge, Suffolk, August 24th, 1913.

To the Editor of THE LANCET.

SIR,—In THE LANCET of August 9th a correspondent states, "The *clientèle* of each is now exactly what it was before the Act," and he further states that all these panel doctors are quite satisfied with their position. Another correspondent endorses this in your issue of August 23rd. One can quite understand their satisfaction, for in some instances their practices must be pretty well doubled in receipts, and from a commercial point of view what more can they desire? But I think a protest must be made against the assertion that the *clientèle* remains the same without touting or encroachment. What have those doctors to say to this who, having given a pledge and held with the whole body of the British Medical Association that work under the Act was not what self-respecting medical men could undertake, have attached some value to their pledge and declined panel work? Cannot these men tell a different tale? I can give an instance where at least three panel doctors have added considerably to their earnings by running over the district of a neighbour, where before a coercing "Act" came into force they were practically unknown. One can hardly envy the position of men who willingly take patients the majority of whom resent being coerced into treatment against their will. The letters you have recently published would give the impression that no hardship had been caused by the action of panel doctors, and it is only just that this impression should be corrected.

I am, Sir, yours faithfully,

Fulbourn, August 25th, 1913. F. L. NICHOLLS.

FATAL HÆMATEMESIS FOLLOWING THROMBOSIS OF THE SPLENIC VEIN.

To the Editor of THE LANCET.

SIR,—In an annotation in THE LANCET of March 29th, under the above heading, there is a report of a case of fatal hæmatemesis following thrombosis of the splenic vein which was reported and discussed at a meeting of clinicians in Berlin. There is little doubt from the account given that the hæmatemesis was the result of congestion of the left gastro-epiploic vein and the vasa brevia, which lead into the splenic vein and drain a large part of the greater curvature of the stomach.

A somewhat similar case came under my notice at St. Bartholomew's Hospital in 1908 and is worth recording. A man, aged 40, was admitted with a history that five and a half years previously he began to suffer from indigestion and pain after food. A year later he was jaundiced for 17 weeks. The jaundice eventually disappeared, but the digestive trouble continued. About two years previous he vomited a quantity of blood on several occasions. About seven weeks before admission he noticed an enlargement of the abdomen. He was found to have a large pancreatic cyst occupying the left half of the abdomen. This was incised and drained of several pints of brown turbid fluid. The patient appeared to make a good recovery. Three months later he was readmitted in an exhausted condition, having lost a large quantity of blood by the mouth and by the bowel, and soon afterwards he died. At the necropsy it was found that the cyst had filled up again, and contained about four pints of a brown turbid fluid loaded with cholesterin. There was no gastric ulceration, nor any evidence to show that the blood came from any localised area in the stomach. There was thrombosis of the splenic vein, which had in all probability been compressed by the pancreatic cyst. The specimen is preserved in the museum at St. Bartholomew's

Hospital (No. 2271B), and the following is a description given of the same.

A pancreas with parts of the spleen and stomach, showing a large pancreatic cyst. The head of the gland appears normal, as does a portion of the body, but towards the middle of its length the latter terminates in a sclerotic mass. The fibrotic area is stained by altered blood and firmly adherent to the wall of a large thick-walled cyst, spherical in shape and measuring 5½ inches in diameter. The cyst exhibits at the site of its union with the pancreas a small orifice, indicated by a red glass rod. The inner wall of the cyst is stained a reddish brown colour by blood pigments. Closely adherent to its posterior wall is a portion of the anterior wall of the stomach, below which lie the splenic vessels, shown by a blue glass rod. On the posterior aspect of the spleen is an area of chronic perisplenitis.

There is also a specimen in St. Bartholomew's Hospital museum (1914C) which illustrates a condition somewhat analogous, though in a reverse direction. It is a specimen showing a chronic ulcer of the posterior wall of the stomach near the cardiac end, thrombosis of the splenic vein, and a hæmorrhagic infarct of the spleen. This patient also died of hæmatemesis.

It would be interesting to know if thrombosis of the splenic vein has been found in other cases of fatal hæmatemesis in which there has been an absence of gastric or duodenal ulceration and no cirrhosis of the liver. Post-operative hæmatemesis nearly always occurs after abdominal operations, and venous thrombosis is also a complication occasionally met with after abdominal section. It is quite possible that thrombosis of the splenic vein has been recorded in some of these cases, and in others has existed and yet has not been observed. Possibly some cases of gastrostaxis of unknown origin which make good recoveries are the result of a temporary splenic or portal thrombosis.

I am, Sir, yours faithfully,

London, W., August 26th, 1913. C. GORDON WATSON.

THE INTERNATIONAL MEDICAL CONGRESSES.

To the Editor of THE LANCET.

SIR,—I have made several attempts during the sessions of the late International Congress of Medicine and since to find out the dates and the places of meeting since its inauguration, but have not been able to get a satisfactory answer.

Will you or any of your readers, therefore, be good enough to supply me with the following information? 1. Where and when was it first held? 2. What were the circumstances under which it was first held? How many countries took part and how many members attended? How many sections were there? 3. Dates and places of meeting since the first Congress?

This information will, if complete, form an interesting episode of the greatest scientific Congress that has ever been held. Thanking you in anticipation,

I am, Sir, yours faithfully,

On board s.s. *Cedric*, August 20th, 1913. WU LIEN TEH.

*** The International Medical Congresses are held in important capitals of the world at somewhat varying intervals. The idea was ventilated at a meeting of the French Medical Association in Bordeaux in 1865, and the First Congress was held in Paris in 1867, during the time of the International Exhibition, when upwards of 1200 medical men attended. The Second Congress was held in Florence in 1869; the Third in Vienna (1873); the Fourth in Brussels (1875); the Fifth in Geneva (1877); and the Sixth in Amsterdam (1879). The Seventh Congress was held in London in 1881, when over 3200 were present and there were 15 sections; the growth of the meetings in importance can be gauged by the figures for the recent London Congress which follow. The Eighth Congress was held in Copenhagen in 1884; The Ninth in Washington (1887); the Tenth in Berlin (1890); the Eleventh in Rome (1894); the Twelfth in Moscow (1897); the Thirteenth in Paris (1900); the Fourteenth in Madrid (1903); the Fifteenth in Lisbon (1906); and the Sixteenth in Budapest (1909), when 4300 were present. The Seventeenth Congress in London this year was attended by nearly 8000 persons, and the proceedings were divided into 26 sections, while advantage was taken of an international gathering of medical men to hold, in loose combination with the Congress, other meetings associated with medicine—such as the meeting of the International Association of the Medical Press and the International Conference on Post-Graduate Instruction. The next Congress will be held in Munich.—ED. L.

INTRAVENOUS INOCULATION OF FRIEDLÄNDER'S PNEUMOBACTERIUM VACCINE IN THE TREATMENT OF OZÆNA.

To the Editor of THE LANCET.

SIR,—Cases of ozæna have till recently been treated by me with vaccines with indifferent results. The vaccines were made from an organism which, as far as my experience goes, is always present and belongs to a group which for convenience may be called Friedländer's pneumobacterium.

In working on the lines devised by Sir Almroth Wright—namely, to be guided for doses by laboratory tests of the blood—I met with considerable difficulty because the organism is not readily phagocyted. In the course of some experiments on animals I injected rabbits intravenously with a living culture of this organism and found that their blood serum acquired the property of agglutinating and also of opsonising the bacteria so that they were readily phagocyted. It was evident that it was worth injecting a killed vaccine of the organism into the vein of a patient. The result in the case of a young girl who was under my care in the Johannesburg Hospital was striking. She had been an in-patient for some months and had been treated carefully by me, to the best of my ability, by the subcutaneous injections of vaccines made from the Friedländer organism, from a streptococcus, a diphtheroid organism, and a staphylococcus, and also by ionisation. Still big fœtid crusts formed almost daily in her nose. When, however, she received the intravenous injection of the Friedländer organism the improvement was immediate and great. The secretion nearly ceased and the interior of the nose became dry and the mucous membrane such as is often seen in adults with atrophic turbinals and in whom there is very little secretion. I gave her four intravenous injections of 100 to 200 millions.

An important point is that her blood serum has acquired the power of agglutinating and opsonising the bacteria. To show the opsonising power the following method is useful for the ordinary strains of the Friedländer organism as met with in ozæna. Make an emulsion of one loopful of culture in 10 minims of salt solution and take one volume of this and six volumes of serum; mix and incubate for 12 to 24 hours. Centrifuge the bacteria down and mix them up with a little salt solution and take one volume of this, one of fresh serum, and one of blood corpuscles; incubate this mixture for half an hour and then spread the films.

In the above case immunity was established more readily by the intravenous than by the subcutaneous method of inoculation.

I am, Sir, yours faithfully,

Johannesburg, August 7th, 1913. A. R. FRIEL, M.D.

THE ROYAL SOCIETY OF MEDICINE AND THE SOCIETY OF TROPICAL MEDICINE AND HYGIENE.

To the Editor of THE LANCET.

SIR,—In a letter in THE LANCET of March 15th I wrote in favour of the amalgamation of the Royal Society of Medicine with the Society of Tropical Medicine and Hygiene and enumerated the objections that the council of the Society of Tropical Medicine and Hygiene put forward against amalgamation. This was based on a memorandum sent out by order of the council.

The council of the Society of Tropical Medicine and

Hygiene have now issued another memorandum in which they communicate to the Fellows of the society the result of further negotiations with the Royal Society of Medicine. From this memorandum it is clear that the Royal Society of Medicine has been anxious to meet all objections raised by the council of the Society of Tropical Medicine and Hygiene and has conceded all points of any importance. "The admission of laymen into the new section would be as at present carried out by the Society of Tropical Medicine and on the same terms as ordinary qualified men."

Medical men, whether British subjects or foreigners, whose qualifications have not been registered, become eligible for membership of the new section. They also become eligible for the Fellowship of the Royal Society of Medicine. That is surely a greater "benefit" than any the Society of Tropical Medicine and Hygiene has hitherto "been able to offer to its foreign Fellows." The Royal Society of Medicine is willing to make very considerable concessions to medical missionaries. As regards Honorary Fellows, the new Tropical Section must obviously fall into line with the other sections of the Royal Society of Medicine, and it is only reasonable that in the election of corresponding members of the section and Honorary Fellows of the society the council of the Royal Society of Medicine should be paramount. No doubt on that council would be representatives of the new section.

The cash balance of a few hundred pounds should not be suffered to stand in the way of an amalgamation otherwise desirable. The cost to present Fellows and to future candidates has, I think, been magnified to an undue extent. In the original memorandum it was not made clear that there would be limitations in the use of the library of the Royal Society of Medicine. But even here that society has been willing to make concessions.

Everything, therefore, would appear to be in train for amalgamation. Not so, however. The council of the Society of Tropical Medicine and Hygiene consider their "independent position" of more importance than the advantages offered by the Royal Society of Medicine. It now remains to be seen if the Fellows of the society agree with them. Short of consenting to become a section of the Society of Tropical Medicine and Hygiene, one cannot see what further concessions the Royal Society of Medicine can make. To the ordinary person it would seem that two courses, and two courses only, were open to the council of the Society of Tropical Medicine and Hygiene—either to have refused altogether to negotiate with the other society or, having negotiated and having the demands they made conceded, to have recommended amalgamation.

The Society of Tropical Medicine and Hygiene is now in honour bound to amalgamate with the other society. The council of the Society of Tropical Medicine and Hygiene lay down that no change will take place unless there is a three-fourths majority of Fellows in favour of the amalgamation. Why not two-thirds, nine-tenths, or even ninety-nine hundredths? Any one of these is as logical as three-fourths. Why not a majority pure and simple? The most momentous decisions of the nation are decided by simple majorities. The council of the society must surely feel that, in this question of amalgamation, it is in hopeless antagonism to the majority of the Fellows when it dares not risk a majority vote.

As a matter of principle the council of the society should not have the power to vary the majority required to decide different questions. The society itself should lay down what the method should be and by what majority its constitution should be subject to alteration. The council itself is elected by a simple majority vote, and therefore what is to prevent a simple majority of Fellows at the next election of the council from electing Fellows pledged to amalgamation and thus upset the decision of the one-fourth plus one minority?

In the Year Book for 1912–13 there are shown 579 Fellows, of whom 160 have addresses in Great Britain and 419 outside Great Britain. If, then, the Fellows resident outside Great Britain all voted solidly for amalgamation, they could not carry it in opposition to the 160 residing in Great Britain which, as Euclid used to say, is absurd.

I am, Sir, yours faithfully,

J. B. SMITH,
Poona, August 15th, 1913. Lieutenant-Colonel, I.M.S.

BLINDNESS AND THE CINEMATOGRAPH.

To the Editor of THE LANCET.

SIR,—At the recent International Medical Congress in the Ophthalmological Section I notice that Professor Carl von Hess (Würsburg) drew attention to affections of the eye produced by undue exposure to light. I think I was the first who brought this under the notice of the profession in a letter, "Blindness and the Cinematograph," which appeared in THE LANCET of May 12th, 1906, p. 1348. Under the circumstances I shall be obliged if you will draw attention to this reference.

I am, Sir, yours faithfully,
Dublin, August 23rd, 1913. E. MAGENNIS.

TONSILLITIS AFTER TONSILLOTOMY.

To the Editor of THE LANCET.

SIR,—In your report of the proceedings at Section XV. (Rhinology and Laryngology) of the International Medical Congress the statement occurs that I "mentioned one case of a schoolboy who had undergone tonsillotomy every term for three years." What I said was: "A schoolboy had tonsillotomy skilfully performed by a specialist, and after the operation he had an attack of *tonsillitis* every term for three years until I enucleated the tonsils with the snare." The specimen of the tonsils was shown.

I am, Sir, yours faithfully,
Harley-street, W., August 24th, 1913. EDWARD D. DAVIS.

INTRAPERITONEAL SALINE INJECTIONS IN EPIDEMIC DIARRHŒA.

To the Editor of THE LANCET.

SIR,—For some years I have been giving intraperitoneal injections of saline solution for collapse caused by epidemic diarrhœa and other exhausting diseases in children. The results have been so consistently good that it has been suggested to me that I should write a short note about this method of treatment.

It is well known that food may be withheld from a young child, but it cannot stand the loss of fluid. In these cases it is necessary to make good the loss of fluid as quickly as possible. If the child can swallow and is not constantly vomiting, fluid can be given by the mouth. Fluid may also be given per rectum, but it is frequently returned. Both these methods can be tried, as if the fluid is returned the washing-out of the stomach and rectum is beneficial. Or fluid may be injected under the skin. This method is distressing; the fluid takes a long time to absorb, and frequently a considerable quantity leaks from the puncture; further, only a small quantity can be given. Intravenous injection of fluid is impracticable in small children, and if it were not, there would be the danger of waterlogging the lungs. The intraperitoneal method has many advantages; it causes very little inconvenience; large quantities of fluid may be given in a short time (I usually start with 10 ounces and repeat in four hours if necessary); it is rapidly absorbed; it is presented to that portion of the body from which fluid has been lost.

It may be objected that there is the risk of wounding the intestine. I have never known this accident to happen. In many cases the abdominal wall can be picked up as the skin is picked up for a hypodermic injection, and it would be difficult to wound the intestine in such cases. But in any case if the needle is inserted through the abdominal wall just below the umbilicus there is little chance of doing damage. The best method of introducing the fluid is by gravity.

The results are very striking. A cold and pulseless infant becomes warm and the pulse is easily felt. The improvement may be only temporary, but the operation can always be repeated, and if other measures are taken to stop the loss of fluid by diarrhœa there is a good chance of recovery. I do not claim that there is any originality in this method of treatment, but from my own experience of it I can confidently recommend it to those who have not tried it.

I am, Sir, yours faithfully,
Queen Anne-street, W., August 21st, 1913. CHARLES MILLER.

FURTHER REMARKS ON THE TECHNIQUE OF ELECTROCARDIOGRAPHY.

To the Editor of THE LANCET.

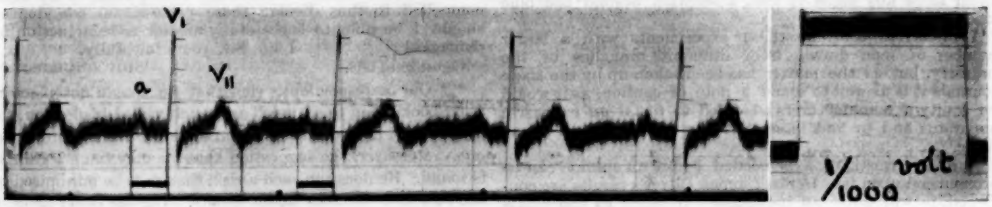
SIR,—During the last week I have had the opportunity of examining and taking records by a new instrument constructed by Messrs. Siemens. The essential part of the apparatus—viz., the galvanometer—consists of a fine suspended coil in a moderately powerful magnetic field, and the movements are magnified by optical lever at a distance of 1 metre. The suspended system is hermetically enclosed, so that there is no variation of tension of any stretched fibre. The damping of the deflections is electromagnetic and is very easily controlled, so that the indication can be made perfectly dead-beat or with any desired amount of overshoot. Its sensitiveness considerably exceeds that of the Einthoven (Cambridge model) and of the Bock-Thoma. The accessories for illuminating and recording purposes are very compactly and conveniently arranged.

I take this opportunity of rectifying a mistake in the setting up of the figures illustrating my article in the issue of THE LANCET of August 9th. Figs. 2A and 3A on page 381 have been reproduced mirror fashion, so that their comparison with the corresponding Figs. 2A and 2B is impossible to any but an expert. The actual comparison is as follows:—

FIG. 2A.

Cambridge string galvanometer.

FIG. 2B.



Bock-Thoma oscillograph.

FIG. 3A.

Cambridge string galvanometer.

FIG. 3B.

Bock-Thoma oscillograph.

I am, Sir, yours faithfully,

A. D. WALLER.

The Physiological Laboratory, University of London, S.W., August 18th, 1913.

*** We saw and regretted the mistake of the illustrator, but too late for rectification, the illustrations being received a very short time before we went to press.—ED. L.

THE PREVENTIVE AND CURATIVE TREATMENT OF INDUSTRIAL LEAD POISONING.

To the Editor of THE LANCET.

SIR,—I have read Sir Thomas Oliver's article in THE LANCET of August 23rd with great interest, as I have been working on the same lines by means of the two-cell bath which has been fitted up at a lead factory in London by Mr. Clague. In attempting to prove the elimination of lead from the body by this method I have paid attention to the blue line only, as its disappearance would be uncontrovertible evidence, and any chemical testing of the water or of the electrodes would be invalidated because of contamination by the deposit of lead compounds on the skin and under the nails, which I have found to be present even after some weeks' absence from work.

The general improvement in health and the increase of grip which have been found by Sir T. Oliver do not prove elimination of lead, as these are the usual effects of a course of electric baths in healthy individuals. Up to the present I have been unable to notice any diminution of the blue line. I have had four men under treatment, three of whom have had nine baths, the other eight, each of 40 minutes duration, with a current of 25 to 30 milliampères. The men are engaged in lead smelting, two of them are old hands and two have been working less than one year, and none of them show any signs of lead absorption beyond the blue line.

I intend to continue these experiments with a larger number of men drawn from different branches of the industry, but as the matter has been taken up by the trade journals it is as well to sound a note of caution, as it would be a pity if manufacturers were led to instal an expensive apparatus and to find later that the treatment was of no value.

Further investigation is needed before an opinion can be pronounced upon it. If Sir Thomas Oliver's results are confirmed, it will prove an inestimable blessing to the whole trade. I am, Sir, yours faithfully,

W. H. F. OXLEY, M.R.C.S., L.R.C.P. Lond.

East India-road, E., August 27th, 1913.

THE TREATMENT OF PULMONARY TUBERCULOSIS.

To the Editor of THE LANCET.

SIR,—It is to be hoped that the last paragraph of the leading article on "Tuberculin in the Diagnosis and Treatment of Pulmonary Tuberculosis" in THE LANCET of August 23rd may be taken to heart by the army of workers, both lay and medical, who are now engaged in dealing with this disease on a large scale. Otherwise it is to be feared there will be published in the reports of medical officers of health and elsewhere endless series of useless statistics on the results of treatment in dispensaries and sanatoriums. Widely varying diagnostic standards will be adopted, and still more widely varying definitions of "arrest" or "cure." One recent report on tuberculin treatment takes as the criterion of a "healed lesion" the fact that "no adventitious sounds were to be detected"! Both those elusive terms "arrest" and "cure" might well be dropped for a decade or so, and the after-duration of life in these patients made the uncompromising test of our results.

The treatment of tuberculosis on a large scale by those of us who are officers of public health authorities provides a favourable opportunity at the present time for the establishment of uniform standards in diagnosis and results of treatment. It is the great merit of the public control of this disease that we shall be able, by the aid of notifications, death returns, &c., to follow many cases through from start to finish, and so in time produce reliable data from which deductions of real value can be made. Also we have, or should have, no axe to grind in connexion with this matter. We are not committed to any single line of treatment, and though tuberculin, as Dr. Prest hints in a letter in the same issue, is proving very attractive in some quarters because it is so cheap, it is our duty to submit all statistics on any method of treatment with the most explicit reserve. Time is the only satisfactory test of results. Unless this is remembered, pages of premature statistics, misleading as well as useless, will be rushed into print, and some new barriers between medicine and science will have been raised. There are quite enough such standing already, waiting to be destroyed. I am, Sir, yours faithfully,

A. NEVILLE COX,
Tuberculosis Officer, Brighton.

August 27th, 1913.

PROFESSIONAL SECRECY AND THE MEDICAL OFFICERS TO STEAMSHIP COMPANIES.

To the Editor of THE LANCET.

SIR,—Can you kindly tell me if a surgeon on one of the large British liners is at liberty to divulge, in his log-book, "full particulars" of the diseases which he may have to treat on board, together with the name of the patient? My instructions are that I must do so. The log-book in question is open to daily critical inspection by the commander (and all commanders are not alike), to casual inspection by port officials at different ports, and to inspection by various people at the home port—it is also possible for various clerks in the offices to inspect it. In the case of members of the crew, an entry of syphilis or gonorrhœa might (and often does) prejudice the patients unfavourably, and in the case of a passenger, it seems to me to be most improper that the nature of his or her illness should be given away to the commander, or, indeed, to any one at all (except in the case of infectious diseases). In the event of my being compelled to thus divulge these professional confidences, should I be able to successfully answer a legal action for damages? I am, Sir, yours faithfully,

SHIP'S-SURGEON.

August 25th, 1913.

*** Our correspondent's view that he should not place in a log-book, open to so much and such varied inspection, the diagnosis of his patients' complaints is the right professional one. Moreover, the suggestion that he may run a legal risk is sound. He does run such a risk, though it be minimised by the fact that he acts under orders. On the other hand, if he does not fulfil those orders he will inevitably jeopardise his position. It seems to us that the managers of our steamship companies should be able, easily able, to devise some machinery by which the necessary information is properly safeguarded, and that they ought to do this to relieve their medical officers from a peculiarly difficult position.—ED. L.

Medical News.

SOCIETY OF APOTHECARIES OF LONDON.—The following candidates passed in:—

Surgery.—A. C. O. Brown (Section I.), Birmingham; T. H. Cresswell (Sections I. and II.), Middlesex Hospital; V. H. M. A. Dangerfield, Paris; H. G. Marshall (Sections I. and II.), Edinburgh and Glasgow; H. C. Wright (Section I.), Manchester.

Medicine.—D. T. Corke (Sections I. and II.), London Hospital; P. R. Cross (Section II.), St. Mary's Hospital; V. H. M. A. Dangerfield, Paris; T. H. Edey (Section I.), Guy's Hospital; D. Havard (Section I.), London Hospital; A. R. Jennings (Sections I. and II.), St. Bartholomew's Hospital; H. G. Marshall (Sections I. and II.), Edinburgh and Glasgow; O. Marshall (Section II.), University College Hospital; C. E. Reckitt (Section II.), Guy's Hospital; W. V. Tothill (Sections I. and II.), London Hospital; H. C. Wright (Sections I. and II.), Manchester.

Forensic Medicine.—D. T. Corke, London Hospital; V. H. M. A. Dangerfield, Paris; A. R. Jennings, St. Bartholomew's Hospital; H. G. Marshall, Edinburgh and Glasgow; G. W. Maw, University College Hospital; S. Rawlinson, Manchester; W. V. Tothill, London Hospital; H. C. Wright, Manchester.

Midwifery.—J. C. P. Bayley, Manchester; A. R. Jennings, St. Bartholomew's Hospital; H. G. Marshall, Edinburgh and Glasgow; W. R. Sadler, St. Bartholomew's Hospital; H. C. Wright, Manchester.

The Diploma of the Society was granted to the following candidates, entitling them to practise Medicine, Surgery, and Midwifery:—

T. H. Cresswell, P. R. Cross, H. G. Marshall, O. Marshall, and C. E. Reckitt.

FOREIGN UNIVERSITY INTELLIGENCE.—*Basle:* Dr. H. K. Corning, extraordinary professor, has been promoted to the chair of Anatomy in succession to Dr. Kollmann.—*Berlin:* Dr. Julius Citron, physician in the second medical clinique of the Charité, has been granted the

title of Professor. He was formerly engaged in investigations on immunity under Professor von Wassermann. Dr. Heinrich Frenkel-Heiden, who has charge of the serological department of the Charité Clinic of Nervous Diseases, has been appointed Professor. The title of Professor has also been conferred upon Dr. Wechselmann, directing physician of the dermatological department of the Rudolf-Virchow Hospital, whose observations and papers on the salvarsan methods of treatment have been of well-recognised importance. Dr. Werssenberg has been recognised as *privat-docent* of Anatomy. Dr. Donitz and Dr. Joseph, *privat-docenten* of Surgery, have been granted the title of Professor.—*Berne:* Dr. Karl Wegelin, of Geneva, has been appointed Professor of General Pathology and Pathological Anatomy.—*Boulogne:* Dr. Giovanni B. Dalla Favera, of Parma, has been recognised as *privat-docent* of Dermatology and Syphilography.—*Erlangen:* Dr. E. F. Weinland, of Munich, has been appointed to the chair of Physiology in succession to Dr. Rosenthal.—*Frankfort:* Dr. Alfred Bertheim, who has worked with Professor Ehrlich on the organic compounds of arsenic, has been appointed Professor.—*Gratz:* Dr. Otto Burkard has been recognised as *privat-docent* of Social Hygiene.—*Munich:* Dr. Leo von Zumbusch, of Vienna, has been appointed Extraordinary Professor of Dermatology and Diseases of the Genital Organs.

THE treasurer of the Society of Medical Phonographers has forwarded a donation of £7 7*s.* to the Royal Medical Foundation of Epsom College.

BRUSSELS MEDICAL GRADUATES' ASSOCIATION.—The following have been elected officers of the association for the ensuing year:—President, Dr. F. Howard Humphris; Vice-President, Dr. H. Fielden Briggs; Honorary Treasurer, Dr. Major Greenwood; Honorary Secretary, Dr. Arthur Haydon.

ST. MARY'S HOSPITAL MEDICAL SCHOOL: THE ANNUAL DINNER.—The annual dinner of past and present students will be held at Princes Restaurant on Thursday, Oct. 2nd, at 7 P.M., not on Oct. 7th, as stated by error in the Students' Number on August 30th. Mr. Horace Sworder will preside, and the honorary secretary of the dinner is Dr. V. Warren Low, 146, Harley-street, W., to whom all communications should be made.

ST. ANDREW'S HOSPITAL, DOLLIS HILL.—His Eminence Cardinal Bourne, Archbishop of Westminster, will hold a reception at this institution on Sept. 26th at 2.30 P.M., when the Lord Mayor of London, accompanied by the Lady Mayoress and the Sheriffs, will attend in state. St. Andrew's Hospital has been recently opened for paying patients of limited means, who, while not suitable subjects for admission to charitable institutions, are yet unable to meet the charges necessary to secure adequate medical or surgical treatment in the private nursing homes. The institution has been built and furnished throughout to meet modern demands, and has the advantage of spacious grounds and country surroundings.

BOOKS, ETC., RECEIVED.

ADLARD AND SON, London.

Radium, as Employed in the Treatment of Cancer, Angiomata, Keloids, Local Tuberculosis, and Other Affections. By Louis Wickham, M.V.O., at Paul Degrais, Chefs de Service au Laboratoire Biologique du Radium; Lauréats de l'Académie de Médecine. Translated by A. and A. G. Bateman, M.B., C.M. Price 2*s.* 6*d.* net.

APPLETON, D., AND COMPANY, New York and London.

Preventive Medicine and Hygiene. By Milton J. Rosenau, Professor of Preventive Medicine and Hygiene, Harvard; formerly Director of the Hygienic Laboratory, U.S. Public Health Service. Price 25*s.* net.

Clinical Laboratory Methods. A Manual of Technique and Morphology designed for the Use of Students and Practitioners of Medicine. By Roger Sylvester Morris, A.B., M.D., Associate Professor of Medicine in Washington University, St. Louis. Price 12*s.* 6*d.* net.

BAILLIÈRE, TINDALL, AND COX, London.

A Text-book of Gonorrhœa and its Complications. By Dr. Georges Luys, late Assistant to the Urological Clinique, Hôpital Laribosière, Paris, Prizeman of the Faculté de Médecine, Paris. Translated and edited by Arthur Foerster, M.R.C.S., L.R.C.P. Lond. Price 15*s.* net.

A Manual of Operative Surgery with Surgical Anatomy and Surface Markings. By Duncan C. L. Fitzwilliams, M.D., Ch.M., F.R.C.S. Eng. & Edin., Surgeon in Charge of Out-patients, St. Mary's Hospital. Price 10*s.* 6*d.* net.

Aids to Public Health. By David Sommerville, B.A., M.D., D.P.H., M.R.C.P., F.C.S., Assistant Professor of Hygiene and Public Health, University of London, King's College. Price, paper, 2*s.* net; cloth, 2*s.* 6*d.* net.

BALE (JOHN), SONS, AND DANIELSSON, LIMITED, London.

Tuberculin in Diagnosis and Treatment. By Dr. Bandelier, Medical Director of Sanatorium "Schwarzwaldheim" at Schömberg (Wildbad), and Dr. Roepke, Medical Director of the Railway Sanatorium "Stadtwald" at Malsungen (Cassel). Second English Edition. Translated from the Seventh Revised and Enlarged German Edition by Wilfred B. Christopherson. Price 15*s.* net.

CASSELL AND COMPANY, LIMITED, London, New York, Toronto, and Melbourne.

Woman, Marriage and Motherhood. By Elizabeth Sloan Chesser, M.B. With an Introduction by Lady Betty Balfour. Price 6*s.* net.

CHURCHILL, J. AND A., London.

Researches on Rheumatism. By F. J. Poynton, M.D. Lond., Fellow of the Royal College of Physicians of London, Vice-Dean of University College Hospital Medical School, and Alexander Paine, M.D. (State Medicine) Lond., D.P.H. Eng., Director of the Cancer Hospital Research Institute, London. Price 15*s.* net.

COBLENTZ, OSCAR, Berlin, W.

Das Gehörorgan und die oberen Luftwege bei der Beurteilung der Militärdienstfähigkeit, mit Berücksichtigung der Staaten mit stehendem Heere. Von Dr. Wilhelm Hasslauer, Oberstabsarzt z.D., München. Price M.6.50.

Die Untersuchung der Nieren und der Harnwege mit X-Strahlen. Von Dr. Béla Alexander, Dozent für Radiologie, Leiter des Centralen Röntgen-Institutes der Universität in Budapest. Price M.16.

FISCHER, GUSTAV, Jena.

Handbuch der Vergleichenden Physiologie. Herausgegeben von Hans Winterstein in Rostock. Sechsunddreissigste Lieferung. Band II. Physiologie des Stoffwechsels, Physiologie der Zeugung. Zweite Hälfte. Price M.5.

FROWDE, HENRY, AND HODDER AND STOUGHTON, London.

Home Hygiene. By Mrs. Hamilton Williams, M.B., B.S. Lond., D.P.H. Cantab., Senior Medical Inspector of Schools under the Worcestershire County Council. With a Preface by the Lady Georgina Vernon, Member of the Education Committee of the Worcestershire County Council. Price 1*s.*

HILTON AND CO., 109, College-street, Calcutta.

A Treatise on Materia Medica and Therapeutics, including Pharmacy, Dispensing Pharmacology, and Administration of Drugs. By Rakhaldas Ghosh, L.M.S. Cal. Univ., Lecturer on Materia Medica, Calcutta Medical School. Edited by B. H. Deare, Lieut.-Colonel, Indian Medical Service, Professor of Materia Medica and Therapeutics, Medical College of Bengal. Fifth edition. Price Rs.5, or 7*s.* 6*d.* net.

HIRSCHWALD, AUGUST, Berlin.

Grundriss der psychiatrischen Diagnostik nebst einem Anhang, enthaltend die für den Psychiater wichtigsten Gesetzbestimmungen und eine Uebersicht der gebräuchlichsten Schlafmittel. Von Prof. Dr. Julius Raecke in Frankfurt a.M. Vierte vermehrte und verbesserte Auflage. Price M.3.

Energetische Theorie der Psychosen und der abnormen Bewusstseinzustände. Von Dr. Harry Marcuse, Arzt an der Irrenanstalt der Stadt Berlin, Herzberge. Price M.3.60.

HOTEL AND GENERAL ADVERTISING CO., LIMITED, 239-241, Shaftesbury-avenue (Bloomsbury), London.

"The Handy" Hotel Guide. 15th edition. 1913-1914. Price 2*d.*

KARGER, S., Berlin.

Abhandlungen aus dem Gebiete der Geburtshilfe und Gynaekologie. Mitteilungen aus der zweiten Frauenklinik der Konigl. Ung. Universität zu Budapest. Herausgegeben von Prof. Dr. W. Tauffer, Direktor der Klinik. Band II. Heft 2. Price not stated.

KLINKHARDT, DR. WERNER, Verlag von, Leipzig.

Die chronischen Erkrankungen der hinteren Harnröhre. Von Dr. Erich Wossidlo, Berlin. Price, paper, M.10; bound, M.11.

Leitfäden der praktischen Medizin. Herausgegeben von Professor Dr. Ph. Bockenheimer, Berlin. Band 7. Innere Medizin. II. Teil. Von Dr. Georg Zuelzer. Price, paper, M.9; bound, M.11.

Band 8. Orthopädische Chirurgie. Von Dr. Gust. Albert Wollenberg, Privatdozent. Price, paper, M.7; bound, M.8.

LAURIE, T. WERNER, LIMITED, Clifford's Inn, London.

Tantalus. By the Author of "The Adventures of John Johns." Price 6*s.*

LEHMANN, J. F., Munich.

Sterilisation und Kastration als Hilfsmittel im Kampfe gegen das Verbrechen. Von Dr. Friedr. Ludw. Gerngross. Price M.1.20.

Die Rassenhygiene in den Vereinigten Staaten von Nordamerika. Von Géza von Hoffmann, k.u.k. österr.-ungar. Vizekonsul. Price, paper, M.4; bound, M.5.

LEWIS, H. K., London.

Hygiene of the Nursery, including the General Regimen and Feeding of Infants and Children; Massage, and the Domestic Management of the Ordinary Emergencies of Early Life. By Louis Starr, M.D., LL.D. Eighth edition. Price 3*s.* 6*d.* net.

MACDOUGALL, ALEX., 70, Mitchell-street, Glasgow.

Congenital Occlusions of the Œsophagus and Lesser Bowel in the Human Subject. Thesis presented, with additional papers, to the University of Glasgow for the Degree of D.Sc. By G. H. Edington, M.D., D.Sc., Surgeon, Western Infirmary, Glasgow Price not stated.

SCIENTIFIC PRESS, LIMITED, London.

The Nurse's Duties Before and During Operations. By E. Margaret Fox, Matron of the Prince of Wales's Hospital, Tottenham, London, N. Price 1s. net.

Principal Drugs and Their Uses. By a Pharmacist. Price 1s. net.

STANFORD, EDWARD, LIMITED, London.

British Rainfall, 1912. By Hugh Robert Mill, Director of the British Rainfall Organization, assisted by Carle Salter, Chief Assistant. The fifty-second annual volume. Price 10s.

THIEME, GEORG, Leipzig.

Die Nervenpunktlehre. II. (selbständiger) Band. Neurologie und Nervenpunktlehre. Von Dr. A. Cornelius, Berlin. Price M.7.

URBAN UND SCHWARZENBERG, Berlin und Wien.

Spezielle Pathologie und Therapie innerer Krankheiten. In 10 Bänden. Herausgegeben von Friedrich Kraus und Theodor Brugsch, in Berlin. Lieferung 1–4 und Lieferung 5–8. Price of each Lieferung M.2, or K.2.40.

Taschenbuch der Diagnostik und Therapie der Lungentuberkulose. Von Dr. Heinrich Gerhartz, Assistent am mediz.-poliklin. Institut der Universität Berlin. Price M.5.

Pathologisch-anatomisches Praktikum für Studierende und Aerzte. Von Prof. Dr. med. Richard Oestreich, Privatdozenten an der Universität und Prosektor des Königin Augusta-Hospitals zu Berlin. Price, cloth, M.6 80.

Appointments.

Successful applicants for vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.*

BING, ALPHONSE, L.A.H. Dub., has been appointed Medical Officer in charge of the Seamen's Dispensary, San Miguel.

CLARKE, ISAAC, L.R.C.P. & S. Irel., has been appointed Medical Officer of Health to the Frodingham Urban District Council.

FINCH, G., M.R.C.S., L.R.C.P. Lond., has been appointed Assistant County Medical Officer of Health for East Suffolk.

FINLAY, DOUGLAS EDWARD, M.B., B.S. Lond., M.R.C.S. Eng., L.R.C.P. Lond., has been appointed a Physician to the Gloucestershire Royal Infirmary and Eye Institution.

GREAT-REX, J. B., M.R.C.S., L.R.C.P. Lond., has been appointed Certifying Surgeon under the Factory and Workshop Acts for the Kidsgrove District of the county of Stafford.

GYLLENCREUTZ, JAMES RANDOLPH, M.R.C.S., L.R.C.P. Lond., has been appointed Senior Assistant Medical Officer at St. John's Hill Infirmary, Wandsworth.

HEFFERNAN, JOHN THOMAS, L.R.C.P. & S. Irel., has been appointed Medical Officer to the Carney, Sligo, District.

HERBERT, NOËL M. G., L.R.C.P. & S. Irel., L.M. Rot., has been appointed Assistant Medical Officer to Whittingham Asylum, Preston, Lancashire.

NIMBKAR, V. D., L.R.C.S & P. Edin., L.F.P.S. Glasg., has been appointed House Surgeon to the Stroud General Hospital, Gloucestershire.

NUTT, W. H., M.D., Ch.B. Edin., has been appointed Honorary Radiographer to the Chesterfield and North Derbyshire Hospital.

WALSHE, S. J. A. HALL, M.B., B.S. Edin., has been appointed House Surgeon at the Royal Torbay Hospital, Torquay.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

ABERGAVENNY, MONMOUTHSHIRE ASYLUM.—Junior Assistant Medical Officer. Salary £250 per annum, with board, apartments, washing and attendance.

ALNWICK INFIRMARY.—House Surgeon, unmarried. Salary £140 per annum, with board and apartments.

BATH, ROYAL UNITED HOSPITAL.—House Surgeon. Salary £80 per annum, with board, lodging, and washing.

BEDFORD COUNTY HOSPITAL.—Assistant House Surgeon. Salary £80 per annum, with board, lodging, and laundry.

BIRMINGHAM AND MIDLAND EYE HOSPITAL.—Junior House Surgeon. Salary £100 per annum, with board and residence.

BIRMINGHAM AND MIDLAND HOSPITAL FOR SKIN AND URINARY DISEASES.—Clinical Assistant for six months to Electrical Department. Salary at rate of 52 guineas per annum.

BIRMINGHAM CITY ASYLUM, Rubery Hill.—Junior Assistant Medical Officer. Salary £200 per annum, with apartments, board, laundry, &c.

BIRMINGHAM CITY FEVER HOSPITAL, Little Bromwich.—Assistant Medical Officer. Salary £150 per annum, with board and residence.

BIRMINGHAM, QUEEN'S HOSPITAL.—Two House Physicians, Two House Surgeons, and One Obstetric and Ophthalmic House Surgeon, each for six months. Salary at rate of £50 per annum, with board, lodging, and washing in each case.

BOLTON INFIRMARY AND DISPENSARY.—Second House Surgeon. Salary £100 per annum, with apartments, board, and attendance.

BRADFORD CHILDREN'S HOSPITAL.—House Surgeon. Salary £100 per annum.

BRADFORD UNION HOSPITAL AND WORKHOUSE.—Assistant Resident Medical Officer, unmarried. Salary £130 per annum, with rations, apartments, and laundry.

BRIDGWATER HOSPITAL.—House Surgeon. Salary at rate of £125 per annum, with board, lodging, and washing.

BRIGHTON, ROYAL ALEXANDRA HOSPITAL FOR SICK CHILDREN, Dyke-road.—House Surgeon for six months. Salary at rate of £100 per annum, with board, lodging, and washing.

BRIGHTON THROAT AND EAR HOSPITAL, Church-street, Queen's-road.—Non-resident House Surgeon for six months. Salary at rate of £100 per annum.

BURY INFIRMARY.—Junior House Surgeon. Salary £30 per annum, with board, residence, and washing.

CANCER HOSPITAL, Fulham-road, S.W.—House Surgeon for six months. Salary £70 per annum.

CANTERBURY MENTAL HOSPITAL, Canterbury.—Assistant Medical Officer, unmarried. Salary £200 per annum, with board, lodging, washing, and attendance.

CARDIFF, KING EDWARD VII.'S HOSPITAL.—House Surgeon for six months. Salary at rate of £60 per annum, with board, residence, and laundry.

CARLISLE NON-PROVIDENT DISPENSARY.—Resident Medical Officer Salary £200 per annum, with apartments.

CHELSEA HOSPITAL FOR WOMEN, Fulham-road, S.W.—Surgeon. Also Surgeon to Out-patients.

CHESTERFIELD AND NORTH DERBYSHIRE HOSPITAL.—House Physician. Salary £90 per annum, with board, apartments, and laundry.

CHESTER GENERAL INFIRMARY.—House Physician. Salary £90 per annum, with residence and maintenance.

COLCHESTER, ESSEX COUNTY HOSPITAL.—House Physician and House Surgeon. Salary £100 per annum each, with board, residence, and washing.

DORCHESTER COUNTY ASYLUM.—Third Assistant Medical Officer. Salary £200 per annum, with board, &c.

DORCHESTER, DORSET COUNTY HOSPITAL.—House Surgeon, unmarried. Salary £100 per annum, with board and residence.

DURHAM COUNTY ASYLUM.—Third and Fourth Assistant Medical Officers, unmarried. Salary £200 per annum, with board, lodging, and washing.

EXETER, ROYAL DEVON AND EXETER HOSPITAL.—Assistant House Surgeon for six months. Salary at rate of 100 guineas per annum, with board, apartments, and washing.

EXMINSTER, DEVON COUNTY ASYLUM.—Junior Assistant Medical Officer. Salary £200 per annum, with quarters, board, and laundry.

GLOUCESTER, GLOUCESTERSHIRE ROYAL INFIRMARY AND EYE INSTITUTION.—Assistant Physician.

GREAT NORTHERN CENTRAL HOSPITAL, Holloway-road, N.—House Physician and House Surgeon for six months. Salary at rate of £40 per annum, with board, residence, and laundry.

GRIMSBY AND DISTRICT HOSPITAL.—Senior House Surgeon. Salary £100 per annum. Also Junior House Surgeon. Salary £30 per annum, with board, lodging, attendance, and washing.

HALIFAX ROYAL INFIRMARY.—Third House Surgeon, unmarried. Salary £80 per annum, with residence, board, and washing.

HASTINGS, EAST SUSSEX HOSPITAL.—Assistant House Surgeon. Salary at rate of £70 per annum, with residence, board, and washing.

HOSPITAL FOR WOMEN, Soho-square, W.—Resident Medical Officer for six months. Salary at rate of £60 per annum.

HULL ROYAL INFIRMARY.—House Physician, unmarried. Also Assistant House Surgeon. Salary £100 per annum in each case, with board and lodging. Also Casualty House Surgeon. Salary at rate of £60 per annum for six months' appointment or £80 per annum for twelve months, with board and lodging.

KENSINGTON AND FULHAM GENERAL HOSPITAL, Earl's Court, London, S.W.—Resident Medical Officer. Salary at rate of £75 per annum, with board and laundry.

KINGSTON UNION INFIRMARY AND WORKHOUSE.—Resident Assistant Medical Officer. Salary £200 per annum, with apartments, rations, and washing.

LEAMINGTON SPA, WARNEFORD GENERAL HOSPITAL.—House Physician. Salary £85 per annum, with board, residence, and laundry.

LEEDS PUBLIC DISPENSARY.—Junior Resident Medical Officer. Salary £100 per annum, with board residence, and laundry.

LEEDS UNIVERSITY.—Research Assistant in Department of Pathology. Salary £125 per annum.

LIVERPOOL CITY INFECTIOUS DISEASES HOSPITAL AND SANATORIUM FOR TUBERCULOSIS.—Assistant Resident Medical Officer, unmarried. Salary £140 per annum, with board, washing, and lodging.

LIVERPOOL INFIRMARY FOR CHILDREN.—Resident House Surgeon and Resident House Physician for six months. Salary £30 in each case, with board and lodging.

MANCHESTER CHILDREN'S HOSPITAL, Pendlebury.—Resident Officer, unmarried, for six months. Salary at rate of £100 per annum.

MARGATE, ROYAL SEA BATHING HOSPITAL FOR SURGICAL TUBERCULOSIS.—Resident Surgeon. Salary at rate of £120 per annum, with board, residence, and laundry.

MIDDLESBROUGH, NORTH ORMESBY HOSPITAL.—Assistant House Surgeon. Salary at rate of £90 per annum for first six months, with board, apartments, washing, and attendance.

MIDDLESBROUGH, NORTH RIDING INFIRMARY.—Senior House Surgeon. Salary at rate of £100 per annum for first six months, with board, residence, and laundry.

NATIONAL HEALTH INSURANCE COMMISSION (ENGLAND).—Medical Officers. Salary £500 per annum.

NEWCASTLE-UPON-TYNE DISPENSARY.—Visiting Medical Assistants. Salary £200 per annum.

NEWPORT (MON.), ROYAL GWENT HOSPITAL.—Resident Medical Officer. Salary at rate of £100 per annum, with board, residence, and laundry.

NORFOLK EDUCATION COMMITTEE.—Assistant Medical Officer. Salary £250 per annum.

NORTHAMPTON, COUNTY BOROUGH EDUCATION COMMITTEE.—Dental Surgeon. Salary £250 per annum.

NORWICH, NORFOLK AND NORWICH HOSPITAL.—House Surgeon in charge of Septic Wards and Casualty House Surgeon for six months. Salary £80, with board, lodging, and washing.

NOTTINGHAM WORKHOUSE AND INFIRMARY.—Resident Assistant Medical Officer, unmarried, for six months. Salary at rate of £165 per annum, with apartments, board, attendance, and washing.

OXFORD COUNTY ASYLUM, Littlemore, near Oxford.—Assistant Medical Officer. Salary £150 per annum, with apartments, board, and washing.

PLYMOUTH, SOUTH DEVON AND EAST CORNWALL HOSPITAL.—House Physician for six months. Salary £75 per annum, with board, residence, and washing.

PORTSMOUTH ROYAL HOSPITAL.—House Physician for six months. Salary £80 per annum, with board, &c.

PRESTON, COUNTY ASYLUM, Whittingham, Lancs.—Assistant Medical Officer, unmarried. Salary £200 per annum, with board, apartments, and washing.

QUEEN'S HOSPITAL FOR CHILDREN, Hackney-road, Bethnal Green, E.—Resident Medical Officer. Salary £125 per annum, with board, residence, and laundry. Also Medical Officer in charge of Electrical Department. Salary £100 per annum.

ROCHDALE INFIRMARY.—Second House Surgeon, unmarried. Salary £100 per annum, with board, residence, and laundry.

ROYAL HOSPITAL FOR DISEASES OF THE CHEST, PREVENTION OF CONSUMPTION DEPARTMENT, City-road, E.C.—Medical Officer. Salary £250 per annum.

ROYAL LONDON OPHTHALMIC HOSPITAL, City-road, E.C.—Senior House Surgeon. Salary £100 per annum, with board and residence.

ROYAL NATIONAL MISSION TO DEEP SEA FISHERMEN.—Medical Men for service at Sea. Salary 4 guineas per week, with board and travelling expenses.

ROYAL NATIONAL ORTHOPÆDIC HOSPITAL.—Surgical Registrar. Salary £105 per annum. Also Resident House Surgeon, unmarried, for six months. Salary £100 per annum, with board, residence, and washing.

ROYAL NAVAL MEDICAL SERVICE.—Twenty-five appointments.

ST. MARY'S HOSPITAL FOR WOMEN AND CHILDREN, Plaistow, E.—Senior Resident Medical Officer, unmarried, for six months. Salary at rate of £100 per annum, with residence, board, and laundry.

SALFORD ROYAL HOSPITAL.—Resident Surgical Officer. Salary at rate of £100 per annum. House Physician. Salary at rate of £90 per annum. House Surgeon. Salary at rate of £75 per annum. Junior House Surgeon and Casualty House Surgeon. Salary at rate of £65 per annum each, and all for six months, with board and residence.

SALOP INFIRMARY.—House Physician. Salary at rate of £90 per annum, with board and apartments.

SHEFFIELD ROYAL HOSPITAL.—Assistant House Physician, unmarried. Salary £80 per annum, with board, lodging, and washing.

SOUTH AFRICA, LUNATIC AND LEPER ASYLUM SERVICE.—Junior Medical Officer. Salary £280 per annum, with board and lodging.

SOUTH SHIELDS, INGHAM INFIRMARY AND SOUTH SHIELDS AND WESTOE DISPENSARY.—Junior House Surgeon. Salary £115 per annum, with residence, board, and washing.

STOCKPORT INFIRMARY.—Junior House Surgeon. Salary £100 per annum, with board, washing, and residence.

SWANSEA GENERAL AND EYE HOSPITAL.—House Surgeon. Salary £100 per annum, with board, washing, and attendance.

TAUNTON, SOMERSET AND BATH ASYLUM, Cotford.—Assistant Medical Officer, unmarried. Salary £180 per annum, with apartments, board, washing, attendance, &c.

UNIVERSITY COLLEGE HOSPITAL MEDICAL SCHOOL, DEPARTMENT OF BACTERIOLOGY.—Demonstrator.

WAKEFIELD GENERAL HOSPITAL.—Second House Surgeon, unmarried. Salary £100 per annum, with board, lodging, and washing.

WARRINGTON INFIRMARY AND DISPENSARY.—Junior House Surgeon for six months. Salary at rate of £100 per annum, with apartments, board, and laundry.

WEST HAM AND EASTERN GENERAL HOSPITAL, Stratford, E.—Junior House Physician and Junior House Surgeon. Salaries at rate of £75 per annum respectively.

WEST LONDON HOSPITAL, Hammersmith-road, W.—TWO House Physicians and Three House Surgeons for six months. Board, lodging, and laundry allowance.

WESTMINSTER GENERAL DISPENSARY.—Resident Medical Officer. Salary £120 per annum, with rooms, gas, coals, and attendance.

WIGAN, ROYAL ALBERT EDWARD INFIRMARY AND DISPENSARY.—Junior House Surgeon. Salary £100 per annum, with rations, apartments, and washing.

WOLVERHAMPTON AND STAFFORDSHIRE GENERAL HOSPITAL.—House Surgeon. Salary £125 per annum, with board, rooms, and laundry.

WORCESTER GENERAL INFIRMARY.—Resident Medical Officer. Salary £150 per annum, with board, residence, and washing.

WREXHAM INFIRMARY.—Resident House Surgeon. Salary £120 per annum, with board, lodging, and washing.

YORK DISPENSARY AND MATERNITY HOSPITAL.—Resident Medical Officer, unmarried. Salary £140 per annum, with board, lodging, and attendance.

THE Chief Inspector of Factories, Home Office, London, S.W., gives notice of vacancies as Certifying Surgeons under the Factory and Workshop Acts at Harleston, in the county of Norfolk; at Skibbereen, in the county of Cork; at Sunderland, in the county of Durham; at Lisbellaw, in the county of Fermanagh; at Ballindalloch, in the county of Banffshire; at Barmouth, in the county of Merionethshire; and at Raphoe, in the county of Donegal.

Births, Marriages, and Deaths.

DEATHS.

ALLEN.—On August 13th, at Pietermaritzburg, Natal, James F. Allen, M.D., fourth son of the late William Allen, of Liscongil, county Cork, Ireland.

ANDERSON.—On August 26th, on board ship, near Suez, of typhoid fever, Tempest Anderson, M.D., D.Sc., of Stonegate, York, aged 66 years.

CLARK.—On August 29th, at Trinity-crescent, Folkestone, Andrew Clark, F.R.C.S., Colonel A.M.S.T., of Cowley-grove, Uxbridge, aged 66 years.

MORRIS.—On August 31st, suddenly, at Gordon Lodge, Blackheath, Clarke Kelly Morris, J.P., M.R.C.S., L.S.A., of heart failure, aged 58 years.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

RAT DESTRUCTION.

THE cannibal habit of the male among the prolific carnivora is one of those facts of nature that if well known are inadequately realised as to their possible bearings. Every schoolboy who keeps rabbits knows that the buck must not be left with the doe when she litters, lest he eat the young. Male cats, pigs, weasels, foxes, wolves, guinea-pigs, ferrets, and rats have also been known to devour the young of their species; and in a recent book ("The Further Evolution of Man: A Study from Observed Phenomena," by W. Hall Calvert, M.D. London: F. C. Fifield. 1913. Pp. 324. Price 5s. net), Dr. Hall Calvert, who introduces this subject with a view to disposing of the Darwinian hypothesis of natural selection by the survival of the fittest as an evolutionary process, adduces some forcible illustrations to indicate the generality of the habit among prolific animals in the wild state. To this is due, doubtless, the habit of the female to seek a hiding-place for parturition, where she remains concealed with her offspring until the danger is overpast, otherwise the males would in time devour all the offspring and the race would become extinct. More females are born than males, and so long as the females can succeed in evading the cannibal instincts of the male the race will continue to increase in geometrical progression. The necessity for a polygamous existence among animals kept for profit is known to every stock breeder. No more males are kept than are essential adequately to serve the females. In other words, a polygamous state among multiparous animals means an ever-increasing race. A curious suggestion has been made by an Australian, Mr. William Rodier, of Hawthorne, Victoria, who in a circular letter ("The Rat Problem: A Practical Solution") suggests that the methods of rat destruction in common use are entirely wrong. He urges that this cannibal instinct of the male rat should be turned to account by killing only the female rats that are caught, and letting the males go free. In course of time the number of males would approximate the number of females, and when that occurred the cannibal instinct of the male rat would gradually exterminate the race. He suggests that the experiment should be scientifically tried, under the ægis of the health department, in some rat-infested town, every male that is caught being docked of its tail or otherwise rendered permanently recognisable. The suggestion seems to us well worthy of a careful trial. So long as the males as well as the females are killed the race will remain polygamous, the percentage of males to females not being seriously altered, with the result that owing to the prolificity of the females and the preservation of the opportunity for concealing their offspring till the danger of their being devoured by the male is over, they will continue to increase however many are killed.

A HOPEFUL POSTCARD.

WE have received a printed postcard which runs as follows:—

"DEAR SIR,—I undertake the Purification of Water in Wells, Ponds and Tanks, by the use of a Non-Poisonous Water Purifier. I can also detect impurities in Water and Tubercles in Milk. I have been most successful in arresting Tuberculosis in Human Beings, both Adults and Children, with a Non-Poisonous Germicide, without Inoculation, or Open-air Treatment.

"Apartments and Hotels near here are available for those living at a distance who desire to have the White Scourge arrested in from Six to Eight Weeks. References and Terms on application.

"Yours faithfully,

"PS.—I hope to succeed with Cancer." "Sanitary Engineer."

PITCH CANCER.

THE use of pitch in the manufacture of patent fuel gives rise to certain forms of injury to the workers which have been investigated at the instance of the Home Office for some time. It appears that certain eye troubles occur amongst the workers owing to fragments of pitch striking the eyes, and also the skin may be attacked. After some years of working there is a tendency for a peculiar kind of warts, known as pitch warts, to form on the face or body, and a large proportion of the men who had been exposed to the pitch dust were affected by them. These warts are not usually malignant, but when they occurred in particular situations—e.g., on the lips or the genital organs, especially the scrotum—"there was a distinct liability to that form of cancer which is called epithelioma." In these words Mr. Alfred Herbert Lush, barrister-at-law, who was appointed to report to the Home Secretary on the question of adopting the proposed draft regulations, introduces his subject. In a second report just issued he appears to give good reasons why the present draft regulations should be withdrawn in favour of the adoption of certain simple sanitary precautions. He

congratulates Dr. T. M. Legge and the Factory Department upon having, by their labours, brought about great improvements in the health conditions of the fuel-workers, with every prospect of still further improvements. "It may be," he adds, "that by the light they have thrown upon the peculiar conditions of the disease as it affects those engaged in that industry, they have done their part in helping on the solution of the general problem of cancer." The manufacturers have agreed to adopt certain measures, including the provision of washing appliances, cloak-rooms, and drying-rooms, and a case for enclosing the coal elevators. It is also stated that there is a possibility of eliminating the mischievous ingredients from the pitch by a chemical process before it is worked into the briquette.

A TESTIMONIAL.

A CORRESPONDENT sends us the following copy of a testimonial given to a medical man by a foreign chief:—

"I have much pleasure to certify that Doctor —— attended me on several occasions. I had the occasion of meeting with many doctors in my life, but none of them could please me so much as this gentleman.

His habitual sympathy towards mankind has won for him the affection of the general public. He is much opposed to mercenary ideas, to which the medical men of the present day are so much attached. Although he lives at a distance of 14 miles from here, but his name has been a household word in ——, and thus he has proved himself active friend of human race.

Natural good habits such as philanthropy, humility, obliging temper, patriotism, &c., are the highest merits which a man should possess, but Doctor —— seems to be the natural home of such lores in whom these merits are found unparalleled. I am much struck to find him first class gentleman!

I fear the foregoing few lines may seeming by amount to exaggeration, but one who will make himself acquainted with this gentleman will be able to have justification and appreciation of these remarks, and perhaps he will be led to the belief that the foregoing remarks could not represent even half the facts of his real qualification."

"MALTWEAT."

Messrs. R. Winter, Limited, of Lawley-street, Birmingham, point out a mistake in the spelling of their preparation in our Analytical Records column of August 23rd. It was mis-spelt Maltwheat, whereas it should be spelt "Maltweat." As the latter is a proprietary name it is important to make this correction.

S.N.R.—Our correspondent has failed to give his name or explain his requirements.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

A DIARY OF CONGRESSES.

THE following Congresses, Conferences, and Exhibitions are announced for 1913:—

April 26th-Nov. 5th (Ghent).—International Exhibition.
May 31st to October (London, Earl's Court).—Imperial Services Exhibition.
May-October (Leipzig).—First International Building Exhibition.
June-October (London, Crystal Palace).—Anglo-German Exhibition.
June 24th-Sept. 30th (London, 54a, Wigmore-street).—Historical Medical Museum. (Organised by Mr. Henry S. Wellcome.)
Aug. 31st-Sept. 7th (Antwerp).—Fourth International Congress for the Hygiene and Salubrity of Dwellings.
Sept. 2nd-6th (Groningen).—International Physiological Congress.
,, 9th-13th (Vienna).—Second International Congress of Life Saving and Prevention of Accidents.
,, 10th-17th (Birmingham).—British Association.
,, 21st-26th (Vienna).—Eighty-fifth Meeting of German Natural Philosophers and Physicians.
,, 22nd-28th (Milan).—Fourteenth International Anti-alcoholic Congress.
Oct. 28th-Nov. 1st (London, Royal Horticultural Hall).—Twenty-fourth Universal Cookery and Food Exhibition.
(London, Shepherd's Bush).—National Gas Exhibition.
(Chicago).—Congress of the International Association of Refrigeration.
(Washington).—Congress of American Physicians and Surgeons.

In 1914:—

April 14th-18th (New York).—Fourth Congress of the International Surgical Society.
May 1st-Nov. 1st (Lyons).—International Town Life Exhibition.
Aug. 3rd-8th (London).—Sixth International Dental Congress.
,, 10th-15th (St. Petersburg).—Twelfth International Congress of Ophthalmology.
Sept. 7th-12th (Berne).—International Congress for Neurology, Psychiatry, and Psychology.
September (Vienna).—Third International Congress for Diseases of Occupation.
(London).—Anglo-American Exhibition.
(Aberdeen).—Eighty-second Annual Meeting of the British Medical Association.
(Auckland, N.Z.).—Australasian Medical Congress.
(St. Petersburg).—Third Mendeléeff Congress of Pure and Applied Chemistry and Physics.
(Washington, D.C.).—International Congress of Americanists.
(Paris).—Fourth International Medical Congress on Industrial Accidents.

Medical Diary for the ensuing Week.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

POST-GRADUATE COLLEGE, West London Hospital, Hammersmith-road, W.

MONDAY.—10 A.M., Dr. Simson: Diseases of Women. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Armour: Operations. 2.30 P.M., Mr. Dunn: Diseases of the Eye.
TUESDAY.—10 A.M., Dr. Robinson: Gynæcological Operations. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Baldwin: Operations. Dr. Davis: Diseases of the Throat, Nose, and Ear. Dr. Pernet: Diseases of the Skin.
WEDNESDAY.—10 A.M., Dr. Saunders: Diseases of Children. Dr. Davis: Operations of the Throat, Nose, and Ear. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Pardoe: Operations. Mr. B. Harman: Diseases of the Eye. Dr. Simson: Diseases of Women.
THURSDAY.—2 P.M., Medical and Surgical Clinics. X Rays. Mr. Armour: Operations. 2.30 P.M., Mr. Dunn: Diseases of the Eye.
FRIDAY.—10 A.M., Dr. Robinson: Gynæcological Operations. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Baldwin: Operations. Dr. Davis: Diseases of the Throat, Nose, and Ear. Dr. Pernet: Diseases of the Skin.
SATURDAY.—10 A.M., Dr. Saunders: Diseases of Children. Dr. Davis: Operations of the Throat, Nose, and Ear. Mr. B. Harman: Diseases of the Eye. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Pardoe: Operations.

LONDON HOSPITAL MEDICAL COLLEGE (UNIVERSITY OF LONDON), Clinical Theatre, London Hospital, Mile End-road, E.

Demonstrations in Clinical Medicine:—

MONDAY.—2.15 P.M., Dr. Wall: Pulmonary Tuberculosis.
TUESDAY.—2.15 P.M., Dr. Grünbaum: Diseases of the Blood.
WEDNESDAY.—2.15 P.M., Dr. Hutchison: Diagnosis of Abdominal Disease.—Dr. Thompson: Diseases of the Ductless Glands.
THURSDAY.—2.15 P.M., Dr. Head: Mental Symptoms occurring in the Practice of General Medicine.
FRIDAY.—2.15 P.M., Dr. L. Smith: Common Cardiac Conditions.

Demonstrations on Selected Surgical Cases and on Cases of Interest in the Wards of the Hospital:—

MONDAY.—10.30 A.M., Mr. R. Howard.
TUESDAY.—2 P.M., Mr. Lett.
WEDNESDAY.—2 P.M., Mr. Warren.
THURSDAY.—2 P.M., Mr. R. Milne.
FRIDAY.—2 P.M., Mr. Walton.

THE THROAT HOSPITAL, Golden-square, W.

MONDAY.—5.15 P.M., Special Demonstration of Selected Cases.
THURSDAY.—5.15 P.M., Clinical Lecture.

EDINBURGH POST-GRADUATE COURSES IN MEDICINE (IN CONNEXION WITH THE UNIVERSITY AND ROYAL COLLEGES).

MONDAY.—9 A.M., Medical Anatomy, Operative Surgery (at the University). 10 A.M., Obstetrical Clinic (at the Royal Maternity Hospital); Operative Surgery (at the University). 11 A.M., Surgical Clinic, Dermatology, Post-mortems (at the Royal Infirmary); 12 noon, Surgical Clinic (at the Royal Hospital for Sick Children). 2 P.M., Morbid Anatomy (at the Royal Infirmary); Surgical Anatomy (at the University). 3.30 P.M., Demonstrations in Pathological Histology (at the University); Surgical Pathology (at the Royal College of Surgeons). 5 P.M., Special Lecture (at the University). 6 P.M., Vaccine Therapy (at the University). 8 P.M., Ophthalmoscopy (at the Royal Infirmary).
TUESDAY.—9 A.M., Medical Anatomy, Operative Surgery (at the University). 10 A.M., Operative Surgery (at the University). 11 P.M., Medical Clinic, Surgical Out-patients (at the Royal Infirmary); Post-mortems; Operations (at the Royal Hospital for Sick Children); 12 noon, Medical Clinic (at the Royal Hospital for Sick Children); Diseases of Eye (at the Royal Infirmary). 2 P.M., Morbid Anatomy (at the Royal Infirmary); Surgical Anatomy (at the University). 3.30 P.M., Demonstration in Pathological Histology (at the University); Surgical Pathology (at the Royal College of Surgeons). 5 P.M., X Rays (at the Royal Infirmary). 6 P.M., Surgical Pathology (Lantern) (at the Royal College of Surgeons).
WEDNESDAY.—9 A.M., Medical Anatomy, Operative Surgery (at the University). 10 A.M., Obstetric Clinic (at the Royal Maternity Hospital); Operative Surgery (at the University). 11 A.M., Dermatology, Post-mortems (at the Royal Infirmary). 12 noon, Surgical Clinic (at the Royal Infirmary); 2 P.M., Morbid Anatomy (at the Royal Infirmary); Surgical Anatomy (at the University).

3.30 P.M., Demonstration in Pathological Histology (at the University); Surgical Pathology (at the Royal College of Surgeons). 5 P.M., Special Lecture. 6 P.M., Vaccine Therapy (at the University). 8 P.M., Ophthalmoscopy (at the Royal Infirmary).

THURSDAY.—9 A.M., Medical Anatomy, Operative Surgery (at the University). 10 A.M., Operative Surgery (at the University). 11 A.M., Medical Clinic, Surgical Out-patients, Post-mortems (at the Royal Infirmary); Operations (at the Royal Hospital for Sick Children). 12 noon, Medical Clinic (at the Royal Hospital for Sick Children); Diseases of Eye (at the Royal Infirmary). 2 P.M., Morbid Anatomy (at the Royal Infirmary); Surgical Anatomy (at the University). 3.30 P.M., Demonstration in Pathological Histology (at the University); Surgical Pathology (at the Royal College of Surgeons). 5 P.M., X Rays (at the Royal Infirmary). 6 P.M., Surgical Pathology (Lantern) (at the Royal College of Surgeons). 8 P.M., Ophthalmoscopy (at the Royal Infirmary).

FRIDAY.—9 A.M., Medical Anatomy, Operative Surgery (at the University). 10 A.M., Obstetric Clinic (at the Royal Maternity Hospital); Operative Surgery (at the University). 11 A.M., Surgical Clinic, Dermatology, Post-mortems (at the Royal Infirmary). 12 noon Surgical Clinic (at the Royal Infirmary). 2 P.M., Morbid Anatomy (at the Royal Infirmary); Surgical Anatomy (at the University). 3.30 P.M., Demonstration in Pathological Histology (at the University); Surgical Pathology (at the Royal College of Surgeons). 5 P.M., Special Lecture. 6 P.M., Vaccine Therapy (at the University).

SATURDAY.—10 A.M., Fevers (at the City Hospital).

ROTUNDA HOSPITAL POST-GRADUATE COURSES, Dublin.

MONDAY.—10 A.M., Obstetrical Lecture: Cæsarean Section. 11 A.M., Examination of Patients and Minor Operations.

TUESDAY.—10 A.M., Major Operations.

WEDNESDAY.—10 A.M., Obstetrical Lecture: Publotomy and Symphysiotomy. 11 A.M., Examination of Patients and Minor Operations.

THURSDAY.—10 A.M., Major Operations.

FRIDAY.—10 A.M., Gynæcological Lecture: Uterine Tumours (Malignant). 11 A.M., Examination of Patients and Minor Operations.

For further particulars of the above Lectures, &c., see Advertisement Pages.

EDITORIAL NOTICES.

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITOR," and not in any case to any gentleman who may be supposed to be connected with the Editorial Staff. It is urgently necessary that attention should be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this office.

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers—not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale, and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

MANAGER'S NOTICES.

THE INDEX TO THE LANCET.

THE Index and Title-page to Vol. I. of 1913, which was completed with the issue of June 28th, were given in THE LANCET of July 5th.

VOLUMES AND CASES.

VOLUMES for the first half of the year 1913 are now ready. Bound in cloth, gilt lettered, price 16*s.* carriage extra.

Cases for binding the half-year's numbers are also ready. Cloth, gilt lettered, price 2*s.*, by post 2*s.* 3*d.*

To be obtained on application to the Manager, accompanied by remittance.

TO SUBSCRIBERS.

WILL Subscribers please note that only those subscriptions which are sent direct to the Proprietors of THE LANCET at their Offices, 423, Strand, London, W.C., are dealt with by them? Subscriptions paid to London or to local newsagents (with none of whom have the Proprietors any connexion whatever) do not reach THE LANCET Offices, and consequently inquiries concerning missing copies, &c., should be sent to the Agent to whom the subscription is paid, and *not* to THE LANCET Offices.

Subscribers, by sending their subscriptions direct to THE LANCET Offices, will insure regularity in the despatch of their journals and an earlier delivery than the majority of Agents are able to effect.

THE COLONIAL AND FOREIGN EDITION (printed on thin paper) is published in time to catch the weekly Friday mails to all parts of the world.

The rates of subscriptions, post free from THE LANCET Offices, have been reduced, and are now as follows:—

FOR THE UNITED KINGDOM.		TO THE COLONIES AND ABROAD.	
One Year	£1 1 0	One Year	£1 5 0
Six Months	0 12 6	Six Months	0 14 0
Three Months	0 6 6	Three Months	0 7 0

(The rate for the United Kingdom will apply also to Medical Subordinates in India whose rates of pay, including allowances, is less than Rs.50 per month.)

Subscriptions (which may commence at any time) are payable in advance. Cheques and Post Office Orders (crossed "London County and Westminster Bank, Covent Garden Branch") should be made payable to the Manager, Mr. CHARLES GOOD, THE LANCET Offices, 423, Strand, London, W.C.

TO COLONIAL AND FOREIGN SUBSCRIBERS.

SUBSCRIBERS ABROAD ARE PARTICULARLY REQUESTED TO NOTE THE RATES OF SUBSCRIPTIONS GIVEN ABOVE.

The Manager will be pleased to forward copies direct from the Offices to places abroad at the above rates, whatever be the weight of any of the copies so supplied.

SOLE AGENTS FOR AMERICA—Messrs. WILLIAM WOOD AND CO., 51, Fifth Avenue, New York, U.S.A.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, Aug. 20th, 1913.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall.	Solar Radio in Vacuo.	Maximum Temp. Shade.	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks.
Aug. 28	30·03	E.	...	117	81	59	63	65	Cloudy
,, 29	29·82	N.E.	0·05	89	71	59	61	63	Cloudy
,, 30	29·72	S.E.	...	95	74	60	62	63	Hazy
,, 31	29·89	N.E.	0·26	69	63	60	60	62	Raining
Sept. 1	29·96	ESE	0·23	69	60	56	56	57	Raining
,, 2	29·98	S.E.	0·24	68	62	56	59	60	Showery
,, 3	30·10	ENE	0·12	83	66	55	56	57	Dull

The following journals, magazines, &c., have been received:—

St. Bartholomew's Hospital Journal, Polyclinic, Medical Review, Journal of Laryngology, Rhinology, and Otology, Journal of State Medicine, Dominion Medical Monthly, Post-Graduate, Cleveland Medical Journal, Archiv für Schiffs- und Tropen-Hygiene, Il Morgagni, Schmidts Jahrbücher, La Clinique Infantile, Archives de Médecine et de Pharmacie, Deutsche Zeitschrift für Nervenheilkunde, Official Gazette of the United States Patent Office, Journal of the Royal Sanitary Institute, Modern Hospital, Revista de la Sociedad Médica Argentina, Ophthalmoscope, Man, Archives de Médecine et de Pharmacie Militaires, Archives of Diagnosis, Boletin da Sociedade Brasileira de Dermatologia, Annales de l'Institut Pasteur.

Communications, Letters, &c., have been received from—

A.—Messrs. Allen and Hanburys, Lond.; Mr. R. Abbe, Homburg; Ainwick Infirmary, Secretary of; Dr. E. Ash, Lond.; Automobile Association and Motor Union, Lond.; Messrs. Arnold and Sons, Lond.; Animals Friendly Society, Lond.; Dr. George Alexander, Barrow-in-Furness; Dr. O. Amrein, Arosa.

B.—Messrs. H. Blacklock and Co., Manchester; Messrs. J. Beal and Son, Brighton; Birmingham Corporation, Medical Superintendent of; Bolton Infirmary and Dispensary, Hon. Secretary of; Messrs. Burroughs, Wellcome, and Co., Lond.; Mr. H. W. Bayly, Lond.; Board of Education, Lond., Secretary of; Birmingham, Medical Officer of Health of; Messrs. Baillière, Tindall, and Cox, Lond.; Dr. J. S. Bookless, Southampton; Bradford Children's Hospital, Secretary of; Bury Infirmary, Secretary of; Messrs. Brady and Martin, Newcastle-on-Tyne; Bedford County Hospital, Secretary of; Dr. M. Bottini, Bergamo; Dr. J. Bernstein, Lond.; Bermondsey, Medical Officer of Health of; Dr. W. P. Bonner, Peterborough; Brussels Medical Graduates' Association, Lond.; Hon. Secretary of.

C.—Captain V. T. Carruthers, Lond.; Dr. G. C. Cameron, Saskatoon, Canada; Coventry and Warwickshire Hospital, Coventry, Secretary of; Dr. John D. Comrie, Edinburgh; Mr. James Cantlie, Lond.; Mr. J. Henry Chaldecott, Lond.; Mr. T. Carwardine, Clifton; Croydon, Medical Officer of Health of; Mr. Sydney W. Cole, Cambridge; Messrs. J. and A. Churchill, Lond.; C. G. B.; Chesterfield Hospital, Secretary of; Messrs. Constable and Co., Lond.; Charing Cross Hospital Medical School, Lond., Governors and Staff of; Chemische Fabrik Reisholz, Reisholz; Mr. W. B. Cowper, Lond.

D.—Messrs. Duncan, Flockhart, and Co., Lond.; Surgeon S. F. Dudley, R.N., Chatham; Dorland Agency, Lond.; Durham County Asylum Farryhill, Medical Superintendent of; Dorset County Hospital, Dorchester, Secretary of; Mr. H. Dickinson, Lond.; Duff House, Banff, Secretary of; Messrs. W. Dawson and Sons, Lond.; Dr. Dreuw, Berlin.

E.—Mr. J. H. Evans, Lond.; Dr. F. W. Edridge-Green, Lond.; East London College, Lond.; Mr. J. K. Endean, Purley; Epsom College, Lond., Secretary of; East Sussex County Council, Lewes, Medical Officer of Health of.

F.—Dr. Paul Fildes, Lond.; Factories, Chief Inspector of, Lond.; Mr. John Fraser, Edinburgh.

G.—Gloucestershire Royal Infirmary, Gloucester, Secretary of; Mr. R. H. Green, Willesborough; Mr. Hastings Gilford, Luss; Glasgow, Chief Sanitary Inspector of; General Hospital, Wolverhampton, Secretary to.

H.—Dr. H. R. Harrower, Lond.; Holborn Surgical Instrument Co., Lond.; Mr. E. Harris, Lond.; Dr. C. O. Hawthorne, Lond.; Horton Infirmary, Banbury, Secretary of; Fleet-Surgeon W. E. Home, R.N., Victoria, B.C.; Sir John P. Hewett, Lond.; Mr. Arthur Hands, Tettenhall.

I.—Inspectors of Lunatics (Ireland), Dublin.

J.—Messrs. W. Judd, Lond.; Mr. Hugh E. Jones, Liverpool; Dr. Robert Jones, Carnarvon.

K.—Mr. H. Kimpton, Lond.; Kingston Union, Clerk to the; Messrs. J. Knight, Lond.; Mr. H. N. Khouri, Nazareth; K. T. W.; Kent County Asylum, Maidstone, Clerk to the; Kensington and Fulham General Hospital, Lond., Secretary of.

L.—Dr. M. H. Luna, Barcelona; Mr. H. K. Lewis, Lond.; Leeds Public Dispensary, Secretary of; Dr. R. Lowe, Vienna; Leeds General Infirmary, Secretary of; Dr. Claude Lillingston, Gorleston-on-Sea; Dr. Florus F. Lawrence, Columbus, Ohio.

M.—Dr. A. Morison, Lond.; Messrs. C. Mitchell and Co., Lond.; Maltine Manufacturing Co., Lond.; Mr. D. Masken, Munich; Meerut Medical Association, Secretary of; Dr. W. Mansell-MacCulloch, Sandown; Messrs. J. Murdoch and Co., Lond.; Messrs. Metchim and Son, Lond.; Mr. A. Maloine, Paris; Messrs. Macmillan and Co., Lond.; Mr. W. Montgomery, Portscatho; Macmillan Co. of Canada, Toronto; Metropolitan Water Board, Lond., Deputy Clerk to the; Dr. John L. Martin, Chelmsford; Mr. John Mills, Ballinasloe; The Modern Hospital Publishing Co., St. Louis, President of; Mr. J. A. Marson, Barbados; Dr. A. Maude, Westerham; Dr. Donald J. Mackintosh, Glasgow; Mr. G. Mann, Lima, Peru; Mr. E. C. Macirone, Ludlow; Messrs. J. Maclehose and Sons, Glasgow; Dr. E. D. Macnamara, Lond.; Messrs. Mayer and Meltzer, Lond.; Captain G. W. Moran, Vancouver.

N.—Northampton Borough Education Committee, Secretary of; Newcastle-on-Tyne Dispensary, Secretary of; Mr. H. Needes, Lond.; North Riding Infirmary, Middlesbrough; Newport and Monmouthshire Hospital, Secretary of; North Ormsby Hospital, Middlesbrough; National Health Insurance Commissioners (England), Lond., Secretary to; Mr. John O. Nicholson, Bridlington; *North Queensland Register*, London Correspondent of; Messrs. J. Nisbet and Co., Lond.

O.—Mr. W. H. P. Oxley, Lond.; Odol Chemical Works, Lond., Manager of; Mr. W. Oulton, Liverpool; The Olympic Games, Lond., Secretary to Special Committee of; Colonel M. D. O'Connell, Tadcaster.

P.—Messrs. Peacock and Hadley, Lond.; Pneumosan Chemische Fabrik, Lond.; Provincial Board of Health, Ontario, Chief Officer of; Mr. H. F. H. Preston, Lond.; Dr. Marcus Paterson, Cardiff; Mr. Peter Paterson, Glasgow; Messrs. Pain and Co., Lond.; Punjab, Sanitary Commissioner of, Lahore; Petrol Substitutes, Joint Committee, Secretary of.

Q.—Queensland, Inspector of Hospitals for the Insane, Brisbane; Queen's Hospital, Birmingham, Secretary of.

R.—Mrs. F. Raymond, Montreal; Dr. A. Roemmele, Paris; Roneo, Ltd., Lond.; Royal Portsmouth Hospital, Portsmouth; Royal Halifax Infirmary, Secretary of; Rochdale Infirmary, Secretary of; Mr. B. Rutherford, Weardale; Royal Albert Hospital, Devonport, Secretary of; Mr. M. Rink, Lond.; Dr. Henry Robinson, Lond.; Royal Medical Benevolent Fund Guild, Lond., Vice-Chairman Case Committee of; Mr. N. J. Readymoney, Bombay; Mr. Henry Rundle, Southsea; Royal Medical Benevolent Fund, Lond., Hon. Secretary of; Royal Sanitary Institute, Lond., Secretary of; Dr. J. Ronaldson Russell, Westerham; Royal Infirmary, Sheffield, Secretary of; Royal Hospital, Salford, Secretary of; Royal Albert Edward Infirmary, Wigan, Secretary of; Messrs. Reynell and Son, Lond.

S.—Dr. A. Stokes, Dublin; S. S.; Somerset and Bath Asylum, Norton Fitzwarren, Medical Superintendent of; Mr. D. Somerville, South Farnborough; Dr. Charles Seaton, Lond.; Professor W. Stirling, Manchester; Messrs. W. H. Smith and Son, Lond.; Scholastic, Clerical, and Medical Association, Lond.; Dr. H. Stedman, Lond.; Dr. Agnes Savill, Ballachulish; *The Shield*, Lond.; Dr. W. S. Syme, Glasgow; Messrs. Spottiswoode and Co., Lond.; Dr. C. Strickland, Kuala Lumpur; Dr. W. H. Symes, Christchurch, N.Z.; Lieutenant-Colonel J. B. Smith, I.M.S., Poona; South Shields, County Borough, Medical Officer of Health of; Messrs. B. F. Stevens and Brown, Lond.; St. Andrew's Hospital, Lond., Secretary of; St. Mary's Hospital Medical School, Lond., Acting Secretary of; Mr. T. Sington, Manchester.

T.—Trefriw Chalybeate Wells, Director of; Dr. T. Twistington-Higgins, Lond.; Dr. J. W. Thomson, Wakefield; Mr. E. F. Thomas, Lond.

U.—University of Leeds, Secretary of; Under-Secretary of State, Home Office, Lond.

W.—Dr. H. E. Wells, Pegu, India; Messrs. Warner, Sheppard, and Wade, Leicester; *The Wigan Examiner*, Manager of; Messrs. R. Winter, Birmingham; Dr. S. A. K. Wilson, Lond.; Messrs. J. Williams and Son, Bradford; West Ham and Eastern General Hospital, Secretary of; Wrexham Infirmary, Secretary of; Warneford General Hospital, Leamington, Secretary of; Hon. Mrs. Wilkinson, Dringhouses; Dr. J. T. Williams, Tenom; Dr. Wu Lien Teh, *ss. Cedric*; Mr. B. Woodman, Croydon; Mr. H. B. Wilkinson, Ivybridge.

Z.—Messrs. C. Zimmermann and Co., Lond.; Dr. K. G. Zwick, Berne.

Letters, each with enclosure, are also acknowledged from—

A.—Messrs. S. Austin and Sons, Hertford; Ancoats Hospital, Manchester, Secretary of.

B.—Mr. W. T. Beswick, Buxton; Messrs. Bruce, Green, and Co., Lond.; Mr. G. Bethell, Lond.; Bury Free Press, Manager of; Messrs. W. H. Bailey and Son, Lond.

C.—Messrs. J. and A. Carter, Lond.; Messrs. Crossley, Schofield, and Co., Blackburn; Canterbury Borough Asylum, Clerk to the; Dr. V. B. Collins, Burslem; Mr. D. M. Cox, Headcorn; County Asylum, Rainhill, Secretary of; Mr. P. Coffey, Newport.

D.—Dr. W. J. H. Dawson, Dinas Powis; Dr. H. Davies, Pretoria, South Africa; Devon and Cornwall Sanatorium, S. Brent.

E.—East Suffolk County Council, Ipswich, Treasurer to the; Mr. O. T. Elliott, Birmingham; Miss Edis, Lond.; E. B.

F.—Dr. J. D. Finlay, Troon; Dr. P. Fernet, Paris.

G.—Dr. T. Grainger, Consett; Messrs. A. Grantham and Co., Reading; Dr. Greanen, Rosario de Santa Fé, U.S.A.; Dr. E. Gardner, Weybridge; Gateshead Dispensary, Secretary of.

H.—Halifax Newspaper Co., Manager of; Messrs. Hayton, Simpson, and Fisher, Cockermouth; Dr. A. F. Hewat, Edinburgh; Mr. T. H. Haynes, Wimbledon; H. B. F.

J.—J. A. R.; J. D. W.

K.—Messrs. S. Kutnow and Co., Lond.; Dr. O. Kirkpatrick, Piet Retief.

L.—Lanark County, Clerk of; Mr. T. S. Logan, Stone; Messrs. Lee and Nightingale, Liverpool; Dr. Leslie, Evesham; Lloyd's Bank, Lond., Manager of; Dr. H. B. Luard, Northallerton; London Temperance Nurses' Co-operation, Lond., Secretary of.

M.—Dr. F. F. Middleweek, Burley; Sir Berkeley Moynihan, Leeds; Messrs. Mather and Crowther, Lond.; Dr. F. E. Meths, Trieste; Moat House, Tamworth, Secretary of; Mr. J. Magauran, Cavan; Manchester Corporation, Treasurer to the; Dr. P. C. Madden, Sharier-el-Maghraby; Mr. J. E. May, Lond.; M. G.

N.—Northumberland House, Lond.; Norfolk County Council, Norwich, Secretary of.

P.—Messrs. Phillip, Son, and Nephew, Liverpool; Portsmouth Corporation, Treasurer to the; P. S.; Mr. A. J. Pelton, Tunbridge Wells.

Q.—Quantock Vale Cider Co., North Petherton.

R.—Mr. W. Ramsey, Melbourne; Miss E. M. Radford, Plymouth; Dr. C. Ryan, Melbourne; Messrs. Reitmeyer and Co., Lond.; Dr. O. Riddel, Prestwich.

S.—Scientific Productions Co., St. Petersburg; Staffs Education Committee, Stafford, Secretary of; Messrs. Slatter and Rose, Oxford; Messrs. Sherratt and Hughes, Manchester; Somerset County Council, Weston-super-Mare, Secretary of; Dr. A. Sztahovszky, Iglo; Mr. E. A. Shirvell, Exeter; Messrs. Spiers and Pond, Lond.; *Shrewsbury Chronicle*, Manager of.

T.—Dr. J. Batty Tuke, Polton; Dr. J. Thomarson, Yarmouth, Isle of Wight.

U.—University of London Press Lond.

V.—Messrs. Van Houten, Lond.

W.—Messrs. F. Williams and Co., Lond.; Messrs. A. Wander, Lond.; Mr. W. F. Walker, J.P., Norwich; Dr. W. P. G. Williams, Cardigan; Mr. E. H. Worth, Lond.; Messrs. Wills, Lond.

EVERY FRIDAY. THE LANCET. PRICE SIXPENCE.

SUBSCRIPTION, POST FREE.

FOR THE UNITED KINGDOM.*		TO THE COLONIES AND ABROAD.	
One Year	£1 1 0	One Year	£1 5 0
Six Months	0 12 6	Six Months	0 14 0
Three Months	0 6 6	Three Months	0 7 0

* *The same rate applies to Medical Subordinates in India.*

Subscriptions (which may commence at any time) are payable in advance.

ADVERTISING.

Books and Publications	Five Lines and under £0 4 0
Official and General Announcements	
Trade and Miscellaneous Advertisements and Situations Vacant ...	Every additional Line 0 0 6
Situations wanted: First 30 words, 2s. 6d.; per additional 8 words, 6d.	
Quarter Page, £1 10s. Half a Page, £2 15s. An Entire Page, £5 5s.	

Special Terms for Position Pages.

Cheques and Post Office Orders (crossed "London County & Westminster Bank, Covent Garden Branch") should be made payable to the Manager, Mr. CHARLES GOOD, THE LANCET Office, 423, Strand, London, to whom all letters relating to Advertisements or Subscriptions should be addressed.

FIG. 1

FIG. 2

FIG. 3

FIG. 4

FIG. 5

FIG. 6

To illustrate Dr. G. S. Blandy's Paper on "Pellagra in England"

FIG. 7

FIG. 8

FIG. 9

FIG. 10

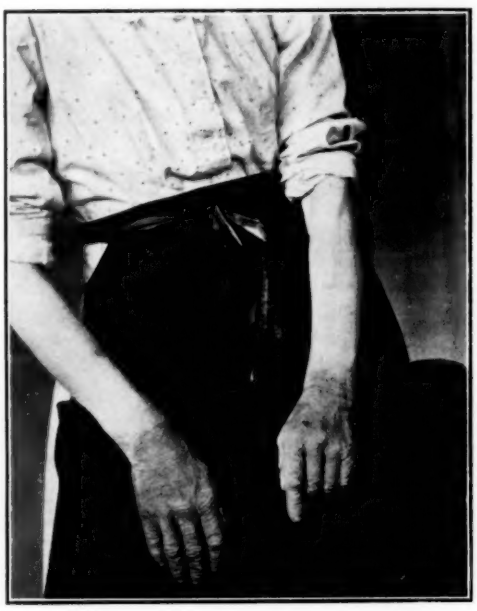


FIG. 11

To illustrate Dr. G. S. Blandy's Paper on "Pellagra in England"